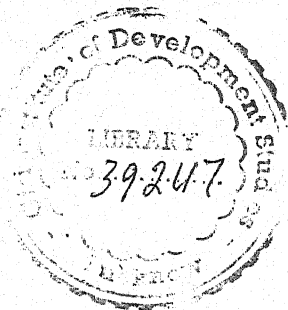# Inter-Regional and Inter-District Variations

IN

Levels and Growth of Income in Uttar Pradesh
1968-69 to 1976-77

(A Study Sponsored by the Planning Commission, Government of India)

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1983

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FOREWORD

In the recent past, few attempts were made to generate income statistics for regions and districts, down below the State level. Due to narrower span of the available data, however, the exercises for these sub-entities were institutionalised by the Government only in respect of the commodity producing sectors. The present study, with financial support from the Planning Commission, brings out total and per capita income estimates in a time series for the regions and districts of Uttar Pradesh, involving, in particular, the estimates of district incomes from the services sector. The study also points out that regional factors have to a great extent been responsible for inter-regional and inter-district disparities, which were on the increase during the reference period, despite the policy for development of backward areas on a preferential basis.

This study was originally planned by myself and Dr. V.N. Misra who was on the Institute staff on deputation from Government of India. As Dr. Misra left the Institute to join back the Government, and I could not devote enough time to the study, Shri R.C. Sinha, carried out and completed the study, on my request. I, however, provided whatever advice and consultation was found necessary by Shri Sinha from time to time.

LUCKNOW   T.S. PAPOLA
August 17, 1983

PREFACE

The present study was carried out with a view to having estimates of income for districts and regions of Uttar Pradesh, depicting trends in total and per capita income levels and identifying factors associated with differential performances of the regional economies. It brings out income (Net Domestic Product) estimates at constant prices of 1970-71 and at current prices, using district specific data as far as possible, covering the period 1968-69 to 1976-77, and encompassing both commodity producing and non-commodity sectors.

The estimates show that, during the reference period, the per capita income of the Hill region was highest, followed by Western, Bundelkhand, Central and Eastern regions. Ranking of regions by per capita income is however not always compatible with the notion of development or economic backwardness. This was especially so in the Hill and Bundelkhand regions, which are endowmentally handicapped. The growth rates of the district and regional economies in general were positively associated with the initial per capita income levels leading to an increase in the inter-regional disparities. Regional factors have, to a great extent, been responsible for the situation in spite of a policy of giving priority to development of backward areas. Poor resource position, requirement of a minimum rate of growth of the State's economy and relatively advantageous position of 'developed' areas in making fuller use of infrastructural and institutional facilities were the main factors responsible for undermining the impact of public policy.

LUCKNOW   R.C. SINHA
August 17, 1983

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CHAPTER I

THE PRESENT STUDY

The Problem

In the initial years after the Independence, there
were severe constraints to having a systematic approach
for socio-economic development in the country on many
counts, one of them being the inadequacy of data necessary
for formulation of economic policies. At that stage the
need for 'authoritative' estimates of national income was
very much felt (1). However, in India, the first attempt
on income estimation was made in 1876 by Dadabhai Naroji
at the country level, followed by others (2). Subsequently
there was an uprise of research interest in the area, coupled
with the need for similar exercises at the state and district
levels. The first state level income estimates were published
in the year 1923 for the Madras state (3). In case of Uttar
Pradesh the first attempt was made by S.G. Tewari, covering
a period 1921-39, published in the year 1951 (4). As the
individual attempts suffered from considerable limitations
on account of resource constraints and limited data access,
the task was taken up by the state governments, beginning the
year 1948-49 (5).

With the passage of time, as the concern for backward
areas kept growing, the concept of planned development was
reoriented to have outlooks for regional and district

development, particularly from the Fourth Plan. Uttar

Pradesh is one of the states where the lower level planning

came to be emphasised. The need for the district income

estimates was thus obvious. The attempts so far made in

this direction, before the task was taken up by the state

statistical bureau, were descrete and suffered with consi-

derable limitations. The lead was however taken by the

National Council of Applied Economic Research (NCAER) who

brought out income estimates for 289 districts of the

country, including all of Uttar Pradesh, with sectoral

break-ups as Agriculture, Manufacturing and Services (6).

In the year 1974, Baljit Singh (7) published his income

estimates for 1970-71 (at 1960-61 prices), covering the

districts of U.P. These estimates were reported by a 9

sector classification - Cultivation; Animal Husbandry;

Forestry and Fishery; Mining and Quarrying; Large Scale

Manufacturing; Smal Scale Manufacturing; Construction;

Transport, Trade and Communication and Services. The

last attempt at individual level was made by A.K. Singh (8)

who worked out the estimates for the districts of the

Western and Eastern regions for the year 1951, 1961 and

1971, with components for primary, secondary and tertiary

sectors, at 1951 prices. The official estimates of incomes

for districts of Uttar Pradesh were first published in the

year 1978 on an annual basis, covering the years 1960-61,

1968-69 and 1970-71 to 1973-74 (9). Prepared by the State

Statistical Bureau (SSB), these estimates refer only to the commodity producing sectors, namely Agriculture & Animal Husbandry, Forestry and Logging, Mining and Quarrying, Manufacturing (Registered), and Manufacturing (Unregistered). This pattern continues uptil now, ignoring the tertiary sector which accounts for about one-third of the State's income and varies markedly in weight across districts (10). Though the individual attempts on district income estimation refering to some of years as mentioned above, gave out the shares of tertiary sector in district incomes, these estimates could hardly be comparable among themselves or with the present ones owing to differences in methodology and the data base (11). Further efforts are therefore needed in this direction, not only to have more authentic estimates but also for a synthesis of inter-district differences in levels and growth of per capita income. Thus, there was a good case for working out a time series of income estimates for regions and districts of Uttar Pradesh and thereby identifying the factors causing disparities among areas in terms of income levels and growth rates.

The Present Study

The study was carried out in the above background, with financial support from the Planning Commission. It may be stated here that the proposal of the study, as approved by the Planning Commission, covered a reference period from 1968-69 to 1973-74. But since the requisite data was avail-

able upto the year 1976-77, it was desirable to extend the
period accordingly. The broad objectives of the study are :

1. to work out a time series of income estimates for
   districts and regions of Uttar Pradesh for the
   reference period 1968-69 to 1976-77;

2. to study the inter-regional and inter-district
   differences in levels and growth rates of income;

3. to measure 'regional' and 'structural' effects
   accounting for inter-district/regional differences
   in per capita incomes in the State;

4. to study, on an inter-area basis, the sectoral shares
   in the total income in relation to income growth; and

5. to identify the factors associated with sectoral growth
   in different regions of the State.

Approach and Organisation

The study is based on secondary data and consists

essentially of two parts, one of district income estimation

and the other of the analysis of inter-regional and inter-

district differences in income levels and growth rates.

Income estimation by itself is a wholesome task that needs

to be carried out more comprehensively than could be possible

in the present context. But as the district income estimates

for commodity producing sectors were available from the

Economics and Statistics Division, State Planning Institute,

Government of U.P., it was considered worthwhile to utilise

them and to work out corresponding estimates for the remaining

sectors of district economies, rather than carrying out very

detailed exercises at the expense of the proposed inter-

regional and inter-district analysis. The estimates for the

commodity producing sectors, namely Agriculture and Allied

(cultivation, animal husbandry, forestry and logging and
fishery), Mining and Quarry, Manufacturing (Registered) and
Manufacturing (Unregistered) as were available at constant
prices of 1960-61, were revalued at 1970-71 prices, by using
appropriate indices. The corresponding estimates at current
prices were adopted as such. For the remaining sectors namely
'construction' and 'services', district incomes were estimated
at 1970-71 prices and at current prices, following the income
approach. Details of the methodology are given in the
Chapter II.

With view to identifying relatively advanced and backward
areas among the officially recognised agro-climatic regions
and districts of Uttar Pradesh, a synthesis of per capita
income levels and growth rates have been made. To the extent
per capita income, could be taken an indicator to represent
various facets like levels and structure of productive acti-
vities, levels of technology and pattern of demand, rate of
investment, an inter-district comparison has been made to
examine the association between per capita income level and
income growth rate (Chapter III).

Besides the questions as to what extent did the inter-
regional and inter-district disparities existed at a point
of time and changed over the reference period, attempt has
been made to look into the factors responsible for the rela-
tive performances of the regional and district economies. The
factors have been considered in two groups, namely the

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Regional and structural (or Sectoral) factors. The regional

factors get manifested by such characteristics as of natural

endowments, size and pattern of land distribution, available

infrastructural facilities, initial levels of socio-economic

development, degree of urbanisation, locational advantages

and disadvantages, and other externalities and values and

attitudes of the people, which are more or less given over

a period of time. Given the regional factors, the inter-

area differences in the levels of development would depend on

profiles and pattern of economic activities, i.e. the sectoral

effect, which shows the extent to which are the opportunities

available to the people in undertaking investments in different

activities. It hardly needs to be mentioned that the region

effect interacts with development and growth of activities,

making it impossible to precisely measure the contributions of

regional and sectoral factors (referred to as Regional and Sect-

oral Effects) in rendering an area relatively developed or

backward. However, a decomposition model has been used to

study the extent to which the Region Effect and Sectoral

Effect were responsible for inter-district disparities in per

capita income (Chapter IV). Attempt has also been made to

bring out the major factors responsible for differential per-

formances of the regional economies, with particular reference

to agricultural and industrial sectors, using inferential

techniques (Chapter V).

So far the inter-area disparities are concerned, they
normally tend to grow if left to themselves. There the role
of the government in reducing the disparities and improving
the performance of the State's economy, by ensuring faster
developments in backward areas, becomes imperative. The
major areas of the government intervention are of upgrading
the endowmental status by creation of physical infrastructure
and enabling people to undertake investments, by making avai-
lable certain institutional facilties on a priority basis in
backward areas. An attempt has therefore been made to relate
the pace of economic development with selected policy indicators
in both financial and physical terms, on inter-regional and
inter-district basis. This is presented in Chapter VI. The
main findings and conclusions of the study are presented in
the Chapter VII.

CHAPTER II

METHODOLOGY OF DISTRICT INCOME ESTIMATION

A Review

While a few attempts have been made to yield district
income estimates as cited earlier, the documents so produced
scarcely touched upon the methodology, except for the State
Statistical Bureau (SSB) which has brought out a separate
document on the subject. The methodology of the SSB estimates
pertaining to commodity producing sectors, has not been covered
in this section. The methods and procedures followed in ear-
lier exercises are briefly summarised as follows.

The NCAER paper (12) which brought out the district
income estimates for the year 1955-56, used the concept of
income as the income 'originating from current production of
goods and services within the geographical boundaries of the
districts' as followed by others too. The method of estimation
adopted by NCAER was the same as followed by the National
Income Committee (NIC, 1954). The sectoral classification
adopted by the NCAER was Primary Secondary and Services. There,
for valuation of output levels, state level prices were used,
which renders the district estimates particularly suitable
for an analysis of shares of individual districts in the
state's economy. For a synthesis of inter-district differences
in real income level of the people, however, these estimates
have to be looked upon in the background of the inter-district
income flows as well as   differences in price levels
between districts and the State. The paper on district income

brought out by Baljit Singh (13) does not describe the
methodology. A.K. Singh (14), in estimating incomes, with the
reference years 1951, 1961 and 1971 for the districts of Uttar
Pradesh, used product approach to compute net output of agri-
culture, animal husbandry and fishery and factory sectors. In
case of the remaining sectors, namely small enterprises; con-
struction; railways; other transport, communication and trade
and commerce; public administration (termed as government
employees); medical, educational and other services; and house
property, the income approach was used. In the exercise, the
author encountered various problems due to non-availability
of district specific data, and thereby used, in a number of
cases, yield rates, input rates and product prices available
for regions, State and the country as a whole. The author
points out that because of data gaps, it was not possible
to estimate the income accrued to the people, a 'superior'
concept. Moreover, while using income approach for certain
sectors, the inter-area differences in labour productivity
could not be fully taken care of.

It may be noted that in the estimation of income of a
region or district, the commonly used concept has been of sum
of total incomes generated from different economic activities
within the geographical boundary. Such estimates are meaning-
ful particularly for studying regional contributions to the
levels and growth rate of the State's or national economy.
The concept of accrued income, though more appropriate in the

context of welfare planning, has not been adopted at the .
lower levels uptil now for want of data on inter-area income
flows. Thus, while per capita income is considered to be a
powerful indicator of the level of economic development, it
should be kept in mind that inter-regional disparities in
terms of the economic conditions of the people get underscored
by the available income estimates for the States, regions or
district. Another important issue relating to regional income
is of appropriateness of the methodology. At a point of time
the data span for a geographical (or administrative) sub-unit
is smaller, compelling the use of relatively crude methodolo-
gical (or procedural) options in an estimational exercise as
in the case of district vis-a-vis the State, and a State
vis-a-vis the country as a whole. It would however be diffi-
culty to specify exactly the data requirements for the purpose
for, one, there is no unique solution to the problem of income
estimation and, second, the approach and procedures an esti-
mational exercise is to be based on the availability of data
which is collected primarily for other purposes. However, with
the passage of time, the data base as well as the methodology
of district income estimation has improved. As regards the
commodity sectors, the estimates thrown by the State Statis-
tical Bureau, have so far the most comprehensive basis of
computations. But the estimates for the 'services' sector
were not computed by the SSB (15). The estimates presented
in this report are inclusive of the incomes from the services
sector, and are based on the following methodology.

Methodology of the Present Estimates of District Incomes

As stated earlier, the estimates of district incomes for commodity producing sectors, available at constant prices of 1960-61 and at current prices from the SSB, Government of Uttar Pradesh (16) have been utilised. As the price reference of 1960-61 was too old, the district income estimates were re-valued at 1970-71 prices. The estimation for remaining sectors was carried out essentially by allocating the corresponding estimates of the State Domestic Product (SDP) across districts, taking into account, as far as possible, the relative size of activities and variations in productivity levels. Here we first give the sectoral classification, and a description about the districts. This is followed by the estimational pro-cedures involved in case of the district level and regional income estimates.

i). The Sectors

The commodity producing sectors, for which the SSB esti-mates were available, are as follows :

1. Agriculture and Allied

   a) cultivation and animal husbandry
   b) forestry and logging
   c) fishing

2. Mining and Quarrying

3. Manufacturing

   a) registered
   b) Unregistered

It is seen that cultivation and animal husbandry sectors were grouped together because of lack of a plausible basis for estimating production costs in these two sectors separately. The remaining sectors for which the estimates were worked out on allocative basis, are

1. Construction

2. Services (Tertiary Sector)

    a) transport, storage and communication
    b) trade and commerce
    c) other services

The above sectors were defined by a regrouping of eight sectors of the classification made by the Central Statistical Organisation. This was done with a view to bringing the activity groups in correspondence with the census classification of workers. Activities covered by the above four sectors are :

Construction : Construction and maintenance (including demolition) of buildings, roads, railways, bridges, telegraphs, telephones, waterways, reservoirs, etc. including the construction work carried out by industries.

Transport, Storage and Communication : Air, rail, road and water transports, services incidental to transport such as packing, casting, loading, unloading etc. storage, warehousing and communication such as post and telegraph, telephone, wireless, signalling, information and broadcasting.

Trade and Commerce : Wholesale and retail trade, commer-
cial transactions relating to export and import, real estates
and properties, stocks and shares, insurance, money lending
and banking etc.

Other Services : Public utilities like electricity, gas
and water supply, sanitary services, public administration,
professional services, etc.

ii) The Districts

The number of districts at present in Uttar Pradesh is
57; the region-wise break-ups are Western 19, Central 10,
Bundelkhand 5, Eastern 15 and Hill 8. Until 1974, before the
creation of districts Lalitpur, Ghaziabad and Kanpur Dehat,
hitherto parts of districts Jhansi (Bundelkhand), Meerut
(Western) and Kanpur (Central), the number was 54. As data
for these new districts for initial years of the reference
period was not available separately, the estimates for district
Jhansi refers to Jhansi and Lalitpur taken together, and for
Meerut to Meerut and Ghaziabad combined. Similarly, the refe-
rence of Kanpur includes Kanpur Dehat. Requisite data was
also not available for the three border districts namely
Pithoragarh, Chamoli and Uttar Kashi in the Hill Region. So
these districts were taken together with the ones from which
they were carved out. In the Hill region the number of
districts (including the district groups) for which the
estimates were worked out is 5, namely Almora & Pithora-

garh, Dehra Dun, Garhwal & Chamoli, Nainital and Tehri-
Garhwal & Uttar Kashi. Thus, the total number of district
units in Uttar Pradesh as referred to in this report is 51 :
Western 18, Central 9, Bundelkhand 4, Eastern 15 and Hill 5.

Options and Procedures

This section has been divided in two parts, the first
one relates to the commodity producing sectors and the other
to the remaining sectors. To the extent the District Domestic
Product (DDP) estimates and State income estimates/for parti-
of the SSB
cular sectors were utilised in arriving at the total income
estimates for the districts and regions, a brief description
of the methodology, as used by the SSB has also be given at
appropriate places.

i) Commodity Sectors

As stated earlier, the DDP estimates for the commodity
producing sectors were already available from the SSB for the
years 1968-69 and 1970-71 to 1975-76 at constant prices of
1960-61 and upto the year 1976-77 at current prices. The SSB
estimates at current prices were adopted as such. But, since
the 1960-61 price levels appeared to be too old for the current
reference, it was considered desirable to bring them at 1970-71
prices. For this purpose sector-wise price inflation factors
were computed for the individual districts and applied on the
income series available at 1960-61 prices. For each district
i, the price factor for jth sector, i.e. PFij was obtained as

$$PFij = \frac{Xij \text{ of year 1970-71 at current prices}}{Xij \text{ of year 1970-71 at 1960-61 prices}}$$

Here **Xij** denotes the income of ith district from jth sector. The DDP of ith district from jth sector at time t, i.e. $Yij(t)$, expressed as :

$Yij(t)$ at 1970-71 prices = $PFij \times Xij(t)$ at 1960-61 prices, and

$Yij(t)$ at current prices = $Xij(t)$ at current prices.

The Xij's were estimated by the SSB, using, as far as possible, district specific data on production and prices, unlike the NCAER (17) who used the State average prices for estimating district incomes. The estimational procedures used in case of the commodity sectors are given in a separate document brought out by the SSB (18). A summary version of the same is presented here (for different sectors) in the following order : (a) Agriculture (cultivation and animal husbandry), (b) Forestry and Lagging, (c) Fishing, (d) Mining and Quarrying, and (e) Manufacturing (registered and unregistered).

(a) Agriculture (Cultivation and Animal Husbandry)

The District Domestic Product (DDP) from cultivation and animal husbandry activities was estimated as net output, which was conceived as grows output of cultivation plus net product of Government irrigation systems plus gross output of animal husbandry minus input costs relating to cultivation and animal husbandry. The gross output from cultivation was valuated for 62 agricultural commodities, as far as possible, by using

physical production estimates and harvest prives. The commo-
dities included the products and by products of cultivation.
At district level the production statistics were available
only for 30 principal crops, along with the harvest prices.
In case of other specified crops only the area estimates for
districts were available. The outturn of these crops was
estimated by using the corresponding state level yield rates.
But even the state level yield rates were not available for
'unspecified' crops. The output of these crops was estimated in
value terms directly on the basis of certain norms in relation
to the value of production of some other crops. Similarly the
district output levels of the by-products and miscellaneous
agricultural products were estimated directly in value terms
by using state level norms in relation to area or output of
certain crops available for the districts.

For evaluating agricultural production, the post-harvest
prices were available at district levels for the principal
crops, based on primary sources. However, in case of sugar-
cane the average price paid by the sugar factories was utili-
sed, while State's average prices were used for certain items,
namely sann-hemp, jute, tea, opium, other fibres, other drugs
and narcotics. The outturn of by-products of agriculture was
evaluated by using price proxies following the nearest commo-
dity approach, subject to the availability of data. Adjust-
ments in the output estimates were also made for the price
differentials on food grains procured by the government.

Income from this sector also included the value added in rice husking, carried out by cultivators themselves. This was done by allocating the state level estimate of value added from rice milling among districts on the basis of number of workers in rice mills in different districts.

The income generated from public irrigation systems was conceived as the amount of water charges realised by the government. The district level estimates of this component were derived as apportionments of the State level estimates in proportion of areas irrigated by canals. The estimate of state domestic product (SDP) was, in turn defined as sum total of compensation to the employees, interest payments and operating surplus in the public irrigation sector (current receipts minus current expenditure), and was computed on the basis of data available from the State Government budget.

The output of animal husbandry sector was based on district-wise estimates of livestock in various categories. As regards the gross output, the value of milk production was based on the estimates of milk yield rates, available only for the regions. For other animal husbandry products, the value of output was worked out, following certain norms determined by the Central Statistical Organisation (CSO) for estimation of the State income.

The various items considered as inputs for the agriculture
and animal husbandry sector are seed, fertilizers, manures,
pesticides and insecticides, electricity, diesel oil, live-
stock feed, irrigation charges, marketing changes, maintenance
and other operational costs and depreciation. The district
level estimates of values of inputs were generally worked
out by distributing the corresponding State level estimates
on the basis of related data as could be available for the
districts.

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(b)   Forestry and Logging

The DDP from forestry and logging activity was worked out
by estimating district output levels of forest products resulting
from a distribution of the state output values of major products
(Timber, firewood and charcoal) on the basis of district-wise
production estimates, taking into account inter-district
variations in product prices.   In case of minor forest products,
the district output estimates were obtained on the basis of
forest circle-wise values and district-wise areas under forest.
Given the district output levels, the corresponding input
cost estimates were subtracted from them to arrive at the DDP
estimates.   The costs were taken to be repairs and maintenance
of forest roads and other assets, operational costs and depre-
ciation, each of which was computed on a normative basis.

(c)   Fishing

The DDP estimates of fishing were worked out by allocating
the corresponding SDP estimate on the basis of district-wise

production estimates, taking into account inter-district
variations in prices of the fish varieties for which the data
was available.

(d) Mining and Quarrying

The DDP estimates of this sector were arrived at by
distributing the SDP estimate across districts in proportion
of the district output values of minerals in respect of which
the data was available.

(e) Manufacturing

The DDP of from manufacturing activities was worked out as
the sum total of value added, estimated separately for registered
and unregistered sectors. For the registered sector the net
value added for districts was taken from the Annual Survey of
Industries. To cover up the cases of non-response an additive
correction factor was first worked out for the SDP and then
this additive component was distributed among districts in
proportion of number of workers. In case of the unregistered
sector, the DDP estimates were arrived at by distributing the
regional domestic product estimates over districts in propor-
tion of the number of workers in the household sector. The
regional estimates in turn were based on proportional shares
of the regions as available from a survey data and the aggra-
gative estimate for the State provided by the CSO. But as
the SDP estimate did not cover the three border districts
(Chamoli, Pithoragarh and Uttar Kashi) of the State, the SDP

was adjusted to account for these districts on the basis
of number of workers in household industries and inter-
districts variations in wages and salaries per worker, before
allocating it among the regions.

The DDP estimates for the aforesaid commodity sectors
were thus obtained at current prices. The corresponding
estimates at 1960-61 prices were similarly worked out by
using the 1960-61 district prices, to the extent available,
as also in certain cases by deflating the output estimates
at current prices following the nearest commodity approach.
The method for arriving at the DDP estimates at 1970-71 prices
has already been stated earlier. The procedure of income
estimation for the remaining sectors is described below.

(ii) Remaining Sectors

The estimates of DDP from non-commodity sectors were
worked out by allocating the corresponding SDP estimates
across districts in proportion of number of workers, taking
into account rural-urban compositional variations between a
district and the State as a whole, separately for the acti-
vities in four groups, namely Construction (C); Transport,
Storage and Communication (TSC); Trade and Commerce (TC);
and other services (OS). It may be noted that these four
sectors were identified from the eight-sector classification
adopted by the CSO, viz. (i) Construction, (ii) Electricity,
Gas and Water Supply, (iii) Transport Storage and Communica-
tion, (iv) Trade, Hotels and Restaurants, (v) Banking and

Insurance, (vi) Real Estate, Ownership of Dwellings and
Business Services, (vii) Public Administration and Defence,
and (viii) Other Services. But since the size distribution
of these activities across districts was available in terms only
of number of workers from the population census (1971) and in
correspondence only of the said four-sector classification,
a regrouping of the sectors was necessary although the SDP for
each in the group of eight sectors was available. Thus, the
sector 'Trade and Commerce' of the four-sector classification
represented the aggregate of sectors mentioned at (iv), (v)
and (vi), and the re-defined 'Other Services' comprises the
ones at (ii), (vii) and (viii). The sectors 'Construction'
and 'Transport Storage and Communication' in the four sector
classification are same as those at (i) and (iii) respectively.
The procedures used for arriving at the cross-district distri-
bution of the SDP from the redefined four activity groups are
presented here in two parts, namely (a) estimation of the number
of workers, and (b) allocation of the SDP across the districts,
as described below.

(a) Estimation of the Number of Workers

Though the district-wise population estimates for different
years of the entire reference period had already been worked
out by the SSB, it was more appropriate to work it out again for
the years 1971-72 onwards on the basis of the growth rates during
1971-1981; the SSB estimates for these years were based on
certain assumed population growth rates considerably lower than

actuals during 1971-81.o For this purpose the district-wise
population estimates for the years 1971 onwards were computed
on the basis of the district-wise growth rates and similar
exercise was done separately for the State as a whole. The
figure for the year 1971-72 was taken to be the average of those
for the years 1971 and 1972 for a geographical unit. Then,
taking the State level estimates as control totals, the regional
estimates (sum over corresponding districts) and the individual
district estimates were adjusted in that order by using multi-
plicative correction factors. As regards the worker population
ratios, there was no plausible basis of estimating them for
different years; the 1981 census figures of workers in above
mention sectors were not published. Therefore, the worker
population ratios pertaining to the non-commodity sectors as
obtained for the districts, regions and the State in the year
1971 were used as such for the years in question. The regional
totals and the district estimates of workers were than adjusted
for rounding errors, in that order taking the State level
estimates as check total for the re-defined four sectors
separately.

(ii) Cross-District Allocation of SDP

The SDP estimates, used for working out their district-wise
break-ups, were taken from the State Income Estimates, Uttar
Pradesh 1960-61 to 1974-75 (Bulletin No.157) for the years
1968-69 and 1970-71 and from the State Income Estimates 1970-71
to 1979-80 (Bulletin No.182) for the years 1970-71 to 1976-77.

It may be mentioned here that the Bulletin No.157 provided the estimates worked out by SSB at constant prices of 1960-61 and at current prices, while the Bulletin No.182 gave the real trends at 1970-71 prices along with the current price estimates, beginning the year 1970-71. For the years 1970-71 onwards, the SDP estimates at 1970-71 prices and current prices, availa-ble from the Bulletin No.182 were used as such. The/sectoral SDP estimates for 1968-69 were arrived at by deflating the 1970-71 estimates available from the Bulletin No.182 in the proportions of the estimates for 1970-71 to those for 1968-69, reported in the Bulletin No.157. The SDP estimates for all individual years in question, at both constant prices of 1970-71 and current prices, thus available, were re-grouped into four sectors and allocated among the districts in following manner.

For individual years, price levels and the sectors (C, TSC, TC and OS or defined earlier), the allocational exercise was carried out in two stages. In the first stage the SDP of each sector was distributed among districts in proportion of the estimated number workers. The district estimates so worked out implied equality in per worker income levels between the dis-tricts and the State. In the second stage the district level estimates were corrected for inter-district variations in per worker income levels. The inter-district variations were taken to be resulting from the differences in rural-urban composition of oworkers and in the average productivity (or wage) levels at different points of time. However, for want any systematic date

the inter-district differentials in the changes in the per
worker income levels could not be taken care of. The DDP estimates
of non-commodity sectors therefore imply that the proportional
change in the average per worker income in a district over a
period of time was the same as that for the State as a whole.
This would only marginally affect the total income estimates.
So far as the variations due to rural-urban composition of
workers is concerned, they were incorporated to certain extent
by means of correction factors with the help of the sectoral
income estimates for rural and urban areas of Uttar Pradesh,
for the year 1970-71 worked out by Bakul H. Dholakia and
Ravindra H. Dholakia (19). The correction factor (CF) was
devised to modify the DDP estimates of non-commodity sectors
by accounting for district to State differences between rural
and urban proportions of workers in the aggregate per worker
income level of a sector in a district. There the ratio of
per worker income in urban areas to that in rural areas was
however assumed to be equal across the districts. For this
purpose the individual sectors, as defined by the authors, were
suitable regrouped to represent the non-commodity sectors C,
TSC, TC and OS, and the corresponding sectoral ratios of per
worker income in rural and urban areas to the aggregate (Rural
urban combined for that sector) per worker income, denoted here
by x(R)/x and x(U)/x respectively, were worked out by using the
1971 census data. The formulation of the correction factor (CF)
was as follows.

Let for a particular sector $x(R)$, $x(U)$ and x denote per worker income levels for rural, urban and combined areas; $n_i(R)$ and $n_i(U)$ the proportions of rural workers and urban workers to total workers in i_{th} district, and $n(R)$ and $n(U)$ the corresponding proportions for the State; and y_i the aggregate (Rural and Urban combined) per worker income level in i_{th} district, taking into account the difference between rural-urban proportions of workers between the district and the State as a whole. Also let x_i denote the DDP of a sector in i_{th} district resulting from the district-wise distribution of SDP in proportion of number of workers and y_i the corrected estimate. The correction factor (CF_i) for i_{th} district may be defined as $CF_i + Yi/Xi$. Or by the condition (2) and identity (4) below

$$CF_i = yi/x \qquad \qquad \ldots \quad (1)$$

The conditions are

$$xi = x \qquad \qquad \ldots \quad (2)$$

$$yi = x(R)\, ni(R) + x(U)\, ni(U) \qquad \qquad \ldots \quad (3)$$

and the identities are

$$Yi/Xi = yi/xi \qquad \qquad \ldots \quad (4)$$

$$x = x(R)\, n(R) + x(U)\, n(U) \qquad \qquad \ldots \quad (5)$$

$$ni(R) = 1 - ni(U) \qquad \qquad \ldots \quad (6)$$

$$n(R) = 1 - n(U) \qquad \qquad \ldots \quad (7)$$

The right hand side of the expression (1) may thus be evaluated as

$$yi/x = \big/x(R)ni(R) + x(U)ni(U\big)\big/x$$

(in view of equation 3)

$$= \big/x-x(R)n(R)-x(U)n(U)+x(R)ni(R)+x(U)ni(U)\big/x \quad \ldots \quad (8)$$

(by adding x and subtracting right hand side of equation 5 from the numerator of the above expression, the value of which is therefore unchanged)

If we express $ni(R)$ and $n(R)$ in terms of $ni(U)$ and $n(U)$ following equations (6) and (7), and simplicy the expression (8), it becomes

$$yi/x = 1+k \big/ni(U) - n(U)\big/ \quad \ldots \quad (9)$$

$$\text{where } K = \big/ \frac{x(U)}{x} - \frac{x(R)}{x} \big/ \quad \ldots \quad (10)$$

The value of K was computed on the basis of the estimates of Bakul H. Dholakia and Ravindra H. Dholakia and thus the sector-wise income correction factors for each district (CF_i which is multiplicative) was finally expressed as

$$CF_i = 1+K \big/ni(U) - n(U)\big/ \quad \text{(in view of equation 1)}$$

so that

$$Y_i = Xi\ CF_i \quad \ldots \quad (11)$$

Using the above correction factors, the DDP estimates of non-commodity sectors were thus corrected for inter-district variations in rural-urban composition of the size of activities (defined in terms of number of workers), and then adjusted with the corresponding values of the SDP. It may be mentioned here that expenditure approach was adopted for computing the state income from Construction sector. The SDP estimates relating to the remaining sectors were based on income approach.

As evident from the above description of the methodology, the district income estimates (DDP) suffer from limitations primarily on account of non-availability of district specific data. Therefore, for some of the sectors the DDP's were derived from the corresponding SDP estimates using some allocational basis. The methodology of State income estimation has been published by the SSB (20). The regional income estimates were arrived at by summing the DDP estimates over districts in each region. Lastly, the DDP estimates have not been adjusted with the corresponding state totals because such adjustments would imply only some undirectional and marginal changes in them but not to any improvement in their quality, meaningful in the context of the inter-district analysis.

CHAPTER III

REGIONAL AND DISTRICT INCOME LEVELS AND GROWTH RATES

Over a period of time the relative position of Uttar Pradesh in terms of per capita income level, has worsened as compared to other states of the country. Although the economy of Uttar Pradesh appeared to be 'picking up' after the green revolution (21), the State continued to remain amongst the bottom few. During the first two decades (1950-51 to 1970-71) the average annual compound growth rate of the national per capita income worked out to 1.5 per cent, while that of the state not even 1 per cent (22). As the situation started revealing, it fetched the attention of the government for development of backward regions (23) and subsequently for backward districts (24), implying an increase in the pace of the State's economic growth and reduction in inter-regional disparities. For the purpose of planning, therefore, a reference to regional and district income levels is important. This chapter examines the inter-regional and inter-district differences in income levels and growth rates and studies the trends in inter-regional disparities in terms of per capita incomes levels. The regional and district-wise estimates of total income, at constant prices of 1970-71, are presented in Annexure-1 for the years 1968-69 and 1970-71 to 1975-76, and those at current prices upto the year 1976-77 in Annexure-2. The population estimates are given in Annexure-3 and the per

capita income estimates for the regions and districts at
1970-71 prices in Annexure-4, and at current prices in
Annexure-5. The regional income levels and growth rates have
been presented below and studied in association with the
prevailing demographic and socio-economic conditions, followed
by an appraisal of inter-district variations in income levels
and growth rates.

Regional Income Levels and Growth Rates

During the initial year 1968-69 the regional total
income levels lay between a little over Rs.1497 crores
(Western) and Rs.1183 crores (Bundelkhand) at 1970-71 prices
(Table-1), which stood at 41.20 per cent and 5.03 per cent
of the State's total income. At current prices the estimates
for Western and Bundelkhand regions for 1968-69 came to Rs.1542
crores and Rs.180 crores respectively (Table-2). The values
at 1970-71 prices being lower than those at 1968-69 prices
suggest that the average price levels in 1970-71 were lower
then those in the year 1968-69. This is supported by the
available price data (25). In general, however there has been
an upward trend in prices. Over the reference period, the
income share exhibited an increase in case of the Western region
and a decline for the Eastern region. A comparison of the
regional percentage income shares based on the estimates at
constant prices with those at current prices suggests that
during the reference period, the rate of increase in prices
was the highest in the Eastern region and the lowest in the

Western region. It finds support from the fact that the rate of growth of real income, was markedly different among the two regions and the lowest in the Eastern region. As the Eastern region alone represents about 38 per cent of the State's population, and an area of 85.8 thousand sq. kms. (29.14 per cent of the State), concerted efforts are therefore necessary for development of this region, and more so in view of its much lower per capita income level as compared with other regions and the State as a whole.

The regional per capita income estimates are presented in Table-3. The per capita income at 1970-71 prices in the year 1968-69 was the highest Rs.603 in the Hill region, followed by Rs.502, Rs.448, Rs.439 and Rs.333 respectively for the Western, Bundelkhand, Central and Eastern regions, for which the figures for the year 1975-76 were Rs.703, Rs.574, Rs.496, Rs.479 and Rs.339 respectively. As current prices the regional PCI levels for 1968-69 and 1976-77 (Rs.) were : Hill 598 and 1093; Western 517 and 967; Bundelkhand 440 and 819; Central 442 and 844; and Eastern 339 and 589.

As regards the relative positions of different regions in terms of per capita income, a few points may be noted. First, as seen above, the Hill regions comes on the top, yet the hill districts have been recognised to be backward. In fact, two of the hill districts (Nainital and Dehradun) which stretch on plain land, are highly developed both agriculturally

Table 1 : Regional Income Estimates at Constant
Prices of 1970-71

(Crore Rs.)

Sl. No.	Year	REGION					State
		Western	Central	Bundel-khand	Eastern	Hill	
1.	1968-69	1497.34 (41.20)	662.25 (18.23)	182.93 (5.03)	1072.24 (29.52)	218.63 (6.02)	3633.39 (100)
2.	1970-71	1802.80 (42.55)	768.29 (18.13)	212.05 (5.02)	1195.76 (28.22)	257.71 (6.08)	4236.62 (100)
3.	1971-72	1722.70 (43.03)	715.98 (17.88)	203.82 (5.09)	1118.24 (27.93)	242.85 (6.07)	4003.60 (100)
4.	1972-73	1847.21 (43.66)	761.74 (18.01)	236.47 (5.59)	1112.46 (26.30)	272.33 (6.44)	4230.20 (100)
5.	1973-74	1767.33 (42.62)	754.67 (18.20)	219.55 (5.30)	1130.61 (27.26)	274.69 (6.62)	4146.86 (100)
6.	1974-75	1891.87 (44.40)	783.75 (18.40)	206.18 (4.84)	1108.33 (26.02)	269.98 (6.34)	4260.11 (100)
7.	1975-76	1985.71 (43.02)	832.46 (18.03)	236.37 (5.12)	1255.12 (27.20)	306.18 (6.63)	4615.85 (100)

Note : Figures in parentheses denote percentages to the total.
The figures for the State are the sum total over the
regions.

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Table 2 : Regional Income Estimates at Current Prices

(Crores Rs.)

Sl. No.	Year	REGION					State
		Western	Central	Bundel-khand	Eastern	Hill	
1.	1968-69	1542.00 (41.84)	665.86 (18.66)	179.58 (4.87)	1081.98 (29.35)	216.75 (5.88)	3686.17 (100)
2.	1970-71	1802.80 (42.56)	768.29 (18.13)	212.05 (5.01)	1195.76 (28.22)	257.71 (6.08)	4236.62 (100)
3.	1971-72	1863.03 (42.07)	797.51 (18.01)	202.64 (4.58)	1317.10 (29.74)	248.01 (5.60)	4428.29 (100)
4.	1972-73	2373.58 (42.99)	1005.15 (18.21)	297.76 (5.39)	1532.18 (27.59)	321.35 (5.82)	5521.04 (100)
5.	1973-74	2627.75 (41.57)	1197.79 (18.95)	328.61 (5.20)	1770.35 (28.01)	396.56 (6.27)	6321.07 (100)
6.	1974-75	3153.72 (42.52)	1385.41 (18.68)	321.89 (4.34)	2081.77 (28.07)	474.06 (6.39)	7416.84 (100)
7.	1975-76	3118.92 (42.47)	1364.87 (18.58)	339.05 (4.62)	2059.42 (28.03)	462.38 (6.30)	7344.64 (100)
8.	1976-77	3421.86 (42.64)	1498.92 (18.68)	399.17 (4.97)	2215.19 (27.60)	490.75 (6.11)	8025.89 (100)

Note : Figures in parentheses denote percentages to the total. The figures for the State are the sum totals over the regions.

Table 3 : Regional Per Capita Income Estimates

(Rs.)

Price level/ Sl. No./ Year	REGION					State
	Western	Central	Bundel-khand	Eastern	Hill	
At Constant Prices of 1970-71						
1. 1968-69	502.20	439.90	448.30	333.20	602.70	430.10
2. 1970-71	581.40	492.30	499.10	331.50	681.40	483.80
3. 1971-72	524.50	449.50	470.20	321.70	627.90	442.20
4. 1972-73	570.88	468.00	531.70	312.10	683.70	462.79
5. 1973-74	533.36	454.00	482.90	311.10	669.80	443.30
6. 1974-75	558.59	461.30	442.90	299.20	638.60	445.50
7. 1975-76	573.64	479.30	496.00	329.10	702.80	471.72
At Current Prices						
1. 1968-69	517.20	441.80	440.10	339.30	597.60	436.30
2. 1970-71	581.40	492.30	499.10	363.30	681.40	483.80
3. 1971-72	567.30	500.70	467.50	392.30	641.30	489.10
4. 1972-73	733.50	617.50	669.50	443.50	806.80	604.00
5. 1973-74	793.00	720.60	722.80	504.30	966.90	676.00
6. 1974-75	931.10	815.40	691.50	579.60	1121.40	775.30
7. 1975-76	901.00	785.80	711.50	560.40	1061.40	750.50
8. 1976-77	967.10	844.20	818.60	589.20	1092.70	801.80

and industrially. The remaining six districts, which are
entirely amids hills, are away from the main stream of develop-
ment due conditions inbihiting development of agriculture,
industries and transport. What pushes these districts above
many others in terms of PCI, may appear to be the contri-
bution of hill specific activities, namely forestry and
logging. Forestry and logging contributes more than 10 per
cent of the total income of the hill region and less than 1 per
cent in other regions, while the per capita income from agri-
culture and animal husbandry activities in the region compares
well with the developed western region (Hill Rs.300, Western
Rs.303 in 1968-69 at current prices). The corresponding
figures of forestry and logging were Rs.86 and Rs.3 only for the
Hill and Western regions. However, as a considerable part of
income from forestry and logging is transferred out of the Hill
region, the PCI of this regions does not give an idea of the
average income level of the people. The problems in matching
of the PCI level and the notion of development or backwardness
between the Hill and other regions however still remains to be
explored. It would, for instance, be interesting to examine
as to how the per capita income from agricultural sector in the
Hill region was almost at par with that of the Western region,
in spite of marked differences in agricultural technology and
cropping pattern. The PCI of the Hill region gets inflated
also du to relatively high proportion of administrative popu-
lation and a very low density of population per unit of area.

Second, the PCI levels of Bundelkhand and Central regions are relatively close to each other. However, for the years 1971-72 onwards, the PCI estimates of Bundelkhand are lower than those of Central Region when considered at 1970-71 prices and comparatively higher at current prices. This implies changes in the inter-regional price relatives. Lastly, while a regional income estimate is a powerful indicator of the level of development, its usefulness in an analysis of inter-regional disparities is limited if looked upon in isolation of the regional characteristics. In this context mention may be made of certain characteristics of Bundelkhand and Hill regions, especially the density of population extent of irrigation and cropping intensity and relative size of manufacturing activity, which clearly distinguish them from others. More typical characteristics of the Hill region is population density, share of land under agriculture in reporting area proportion of economically active population, and proportion of the administrative population. Some of the regional characteristics are show in Table 4.

The estimates presented above show that the inter-regional differences in the levels of PCI prevailed throughout the reference period as they were in the initial year. Table 5 shows that the total income growth rate (26) in annual/percentage terms was highest (4.98) for the Hill region, followed by Western (4.82), Bundelkhand (4.19), Central (3.54), and Eastern (1.76), exhibiting the same hierarchy as in terms of PCI. These

Table 4 : Inter Regional Variations in Terms of
Selected Indicators Relating to Demography
and Sectoral Development

Description	REGION					State
	West-ern	Cent-ral	Bundel-khand	East-ern	Hill	
1. Density of population (No. per sq. km., 1971)	381	343	146	387	75	300
2. Worker to population ratio in 1971 (%)	28.78	31.50	31.53	31.42	41.93	31.00
3. Percentage of workers, as per 1971 Census, in a) Agricultural and allied activities	71.9	77.4	81.9	83.2	76.9	78.0
b) Manufacturing	9.3	7.4	5.0	6.3	0.5	7.3
4. Average land holding size 1971 (ha.)	1.36	1.10	2.66	0.86	1.07	1.61
5. Proportion of net irri-gated area to net area sown in 1970-71 (%)	56.24	31.66	22.17	40.84	20.08	41.72
6. Proportion of gross irrigated area to gross cropped area in 1970-71 (%)	50.20	27.19	21.19	32.39	15.17	36.04
7. Cropping intensity in 1968-69 (%)	134.16	127.24	108.54	130.09	148.2	129.53
8. Per capita net output in 1968-69 (Rs.) a) Cultivation and animal husbandry	303	248	290	218	300	260
b) Forestry and logging	2.82	3.77	3.80	2.72	85.70	6.56
9. Share of income from manufacturing in 1968-69 (%)	8.37	9.18	4.74	8.21	3.58	8.01
10. Number of persons emplo-yed in Public Sector as proportion of population in 1972 (%)	1.48	2.12	2.06	1.26	3.43	1.63

growth rates are mainly guided by the growth of income from
agricultural and allied activities. Next important in rela-
tion to the differences in growth rates of the regional economies,
has been the performance of secondary, sector with annual growth
rate ranging from a low of 3.50 per cent per annum in Bundelkhand
to 8.52 per cent in Western region. For the Hill region a growth
rate of 6.28 per cent weighed a little towards total income
growth because of a very small proportion of income originating
from the secondary activities in six out of eight districts of
the region; the industrial activities were concentrated in the
districts Nainital and Dehradun. In Bundelkhand too the size of
manufacturing activity was small as compared with other sectors,
and was concentrated in Jhansi district. Also, unlike other
regions, the levels and growth rates of income from secondary
activities in both Bundelkhand and Hill regions refer mainly be

growth of 'Construction' sector. The Table 6 depicts the
sectoral shares in total regional incomes. As regard the ter-
tiary sector, its growth rate varied between 3.52 per cent in
the Eastern region and 4.67 per cent per annum in Bundelkhand,
next to which was the Hill region with that of 4.17 per cent.
The percentage annual growth rates of population lay between
1.91 per cent in Eastern and 2.46 per cent in the Hill region,
with same hierarchy among regions as by total income growth.
Still, with exception of a marginal reversal between the Hill
and Western regions, the hierarchy of regions in terms of PCI

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Table 5 : Average Annual Compound Growth Rates of
.Regional Incomes, Population and Per Capita
Incomes (1968-76)

(%)

Sector/Item	REGION					State
	West-ern	Cent-ral	Bundel-khand	East-ern	Hill	
1. Agriculture and Allied	4.45	2.32	4.36	0.71	5.04	2.99
2. Primary	4.44	2.71	4.34	0.69	5.07	3.02
3. Manufacturing	8.52	6.02	1.56	2.85	6.31	6.18
4. Secondary	7.32	5.83	3.50	3.62	6.28	5.95
5. Tertiary	3.99	3.90	4.67	3.52	4.17	3.93
6. All Sectors	4.82	3.54	4.19	1.76	4.98	3.69
7. Population	2.11	1.96	2.17	1.91	2.46	2.03
8. Per Capita Income (PCI)	2.52	1.55	1.97	-0.96	2.45	1.59

growth rate remained the same as in terms of total income growth rate. The PCI growth rates in the Western region was the highest (2.52%), followed by Hill (2.45%), Bundelkhand (1.97%), Central (1.55%) and Eastern (-0.96%).

It would be worth-while to put together the main obser- vations emerging from the above discussions. First, there might appear to be some conflict between the hierarchy of the regions in terms of per capita income level and the officially recognised backward regions, particularly the Hill and Bundel- khand. It seems that the backwardness of these regions, though they have higher per capita income levels as compared to the

Table 6 : Sectoral Shares in Total Regional Incomes

(%)

Description	REGION					State
	Western	Central	Bundel-khand	Eastern	Hill	

A - Based on estimates at 1970-71 prices

1. Agriculture and Allied

1968-69	56.42	55.75	66.57	63.78	63.78	59.42
1975-76	55.45	53.46	68.57	62.64	65.30	58.21

2. Primary

1968-69	56.48	55.75	66.69	64.49	63.89	59.67
1975-76	55.45	55.22	68.57	62.05	65.36	58.53

3. Manufacturing

1968-69	9.31	9.71	5.12	8.87	3.28	8.68
1975-76	12.51	10.98	4.25	10.01	4.45	10.59

4. Construction

1968-69	7.01	4.32	4.52	3.63	7.32	5.42
1975-76	6.68	4.30	4.41	3.89	6.87	5.39

5. Secondary

1968-69	16.32	14.03	9.64	12.50	10.60	14.10
1975-76	19.19	15.28	8.66	13.90	11.32	15.98

6. Tertiary

1968-69	27.20	30.22	23.66	23.01	25.51	26.23
1975-76	25.36	29.50	22.77	24.05	23.32	25.49

B - Based on Estimates at Current Prices

1. Primary

1968-69	59.31	57.11	67.27	65.91	64.75	61.56
1975-76	51.74	53.73	61.63	59.88	60.71	55.23
1976-77	50.87	50.73	62.60	57.35	55.91	53.64

2. Secondary

1968-69	14.53	13.07	8.91	11.47	10.26	12.84
1975-76	18.93	14.36	9.65	13.18	11.73	15.59
1976-77	17.97	13.71	8.92	13.41	13.68	15.20

3. Tertiary

1968-69	26.16	29.82	23.82	22.62	24.99	25.60
1975-76	29.33	32.91	28.72	26.94	27.56	29.18
1976-77	31.16	34.95	28.08	29.24	30.41	31.16

state as a whole, arises from the development constraints on
account of physical resource conditions and the quality of
life which is not well reflected by the per capita income level.
Second, the hierarchy of regions by PCI level comes out to be
similar to that by total income as well as by per capita income
growth rates. It implies that income growth rates are inter-
alia determined by the initial income levels. Third, the total
income growth rate were mainly guided by agriculture and allied
activities, for this sectors contributes a major part of total
income in each region. The agriculture and allied sector is
almost entirely represented by cultivation and animal husbandry
activities. Fourth, in the context the State's economic deve-
lopment, the development of agriculture in Western, Eastern and
Central regions is especially importance since these regions
cover more than 85 per cent of State's agricultural land.
These three regions also represent about 91 per cent of the
State's population, including the shares of Western and Eastern
regions of over 35 per cent and about 38 per cent respectively.
And fifth, a low growth of 1.76 per cent per annum in income of
Eastern region (State 3.69%), resulting into a negative growth
in its capita income, has pulled down the growth rate of the
State's economy.

District Income Levels and Growth Rates

Among the 51 district units, the total income level in the
base year 1968-69 at 1970-71 prices varied from about Rs.21
crores of Tehri (including Uttar Kashi) to Rs.199 crores, about

five times the former, of Meerut. A grouping of districts
according to total income levels in the base year 1968-69
(at 1970-71 prices) shows that among the top 10 district 5
belong to Western region and 1 and 4 to Central and Bundel-
khand regions, with average income of Rs.123 crores per
district. The proportion of average income per district
between the groups of top 10 and bottom 10 districts comes
to 3.15 : 1, and that between the top 15 districts, all of
which belong to the above three regions, and the bottom 15
districts to 2.64 : 1. Though density of population varies
considerably across the district, the districts with rela-
tively high levels of total income are, by and large, those
which also have higher per capita incomes (PCI). Thus
generally, the size of population does not appear to be as
important a factor in the inter-district differences in PCI
levels as presumably are the physical conditions of develop-
ment. By the same token, as we would see later, although
population growth rates vary across regions and districts, the
inter-area hierarchy in terms of total income growth rates
remain by and large the same as in terms of PCI growth rates,
and more clearly by PCI levels. It would be relevant to
classify the districts by different PCI groups, and examine
if there exists a significant relationship between the PCI
levels and income growth rates.

According to the Table 7, Azamgarh, Ghazipur, Jaunpur and
Pratapgarh, all of the Eastern region constitute the lowest

Table 7 : Districts Falling in Different PCI Groups in the Base Year 1968-69

Sl No.	PCI groups at 1970-71 prices (Rs.)	Western	Central	Bundelkhand	Eastern	Hill
1.	Below 250				Azamgarh	
2.	250 - 300				Ghazipur, Jaunpur, Pratapgarh	
3.	300 - 350	Budaun	Unnao		Ballia, Basti, Deoria, Faizabad, Sultanpur	
4.	350 - 400	Etah, Farrukhabad	Barabanki, Fatehpur, Hardoi, Rae Bareli, Sitapur		Allahabad, Bahraich, Gonda, Gorakhpur	Almora & Pithoragarh, Tehri & Uttar Kashi
5.	400 - 500	Aligarh, Bulandshahr, Mainpuri, Moradabad	Kheri	Banda, Hamirpur, Jalaun, Jhansi & Lalitpur	Mirzapur, Varanasi	
6.	500 - 600	Agra, Bareilly, Bijnor, Mathura, Muzaffarnagar, Rampur, Shahjahanpur	Lucknow			
7.	600 and above	Meerut, Pilibhit, Saharanpur	Kanpur			Garhwal & Chamoli, Dehra Dun, Naini Tal

group of 4 in the State. Along with 12 districts (5, 1, 4 and 2
from Western, Central, Bundelkhand and Eastern regions), the
PCI levels of Central, Bundelkhand and the State were in the
PCI group Rs.400-500 (at 1970-71) prices in the base year.
The number of districts distinctly below the State's PCI level
was 24 (3, 6, 13, and 2 of Western, Central, Eastern and Hill
regions) and that of districts above the PCI group was 15 (10,
2 and 3 from Western, Central and Hill regions respectively).
Whereas the inter-district hierarchy in PCI levels remained by
and large unaltered during the reference period, a shift in the
position of districts on the PCI scale in visible between the
year 1968-69 and 1975-76 (Table 8). In the Western region the
number of districts below the PCI Rs.400 was 3 in 1968-69 and
1 in 1975-76, while the number in PCI range Rs.500 and above,
increased from 10 to 12, similar shift can be seen among
districts of Central, Bundelkhand and Hill regions, but in the
Eastern region downward shifts in districts positions, parti-
cularly below the PCI level of Rs.400. Notably, while PCI levels
have grown in case of majority of districts during the reference
period, that of most of the Eastern districts either decreased
or stagnated. The only four districts of Eastern region showing
shifts to higher PCI groups are Allahabad, Azamgarh, Ghazipur
and Varanasi. The positions of Jaunpur and Gorakhpur lay in
the groups Rs.250-300 and Rs.350-400, and of Deoria, Pratapgarh
and Sultanpur in Rs.300-350 in both the terminal years. Of the
six eastern districts showing a downward shifts from PCI groups

Rs.300-350 to Rs.250-300 are Gorakhpur, Jaunpur, Pratapgarh and Ghazipur and from the PCI group Rs.350-400 to Rs.300-350 are Bahraich and Gonda. It is interesting to note that each of these 11 eastern districts exhibiting a downward trend in PCI, had a PCI level below Rs.400, while 8 of them had the level below Rs.350. There is thus an indication that the initial level of per capita income interacts with income growth rates in case of the district economics, which has been further examined as below.

Table 8 : Distribution of Districts by PCI groups in the years 1968-69 and 1975-76

(Number)

PCI Groups at 1970-71 Prices (Rs.)	Year 1968-69						Year 1975-76					
	Region*					S	Region*					S
	W	C	B	E	H		W	C	B	E	H	
1. Below 250				1		1						
2. 250 - 300				3		3				6		6
3. 300 - 350	1	1		5		7				5		5
4. 350 - 400	2	5		4	2	13	1	6		1		8
5. 400 - 500	5	1	4	2		12	5	1	2	3	1	12
6. 500 - 600	7	1				8	7	2				9
7. 600 and above	3	1			3	7	5	2			4	11
TOTAL	18	9	4	15	5	51	18	9	4	15	5	51

* W : Western; C : Central; B : Bundelkhand;
  E : Eastern; H : Hill

The relationship of the initial per capita income level (PCI) and income growth rates across the districts appears to be positive through somewhat weak and discontinuous. Table 9 shows a distribution of districts by PCI groups and total income growth rates, and Table 10, the distribution by PCI groups and PCI growth rates. There are quite a few exceptions where districts with relatively low PCI levels exhibit growth rates much above the over-all average, such as Budaun, Allahabad, Azamgarh, Almora and Pithoragarh and 'Tehri and Uttar Kashi' the one hand and districts with high PCI levels and relatively low growth rates, e.g. Mathura (Annexure 10) on the other. From the above tables two blocks of districts may be identified : one with districts with PCI below Rs.400, total income growth rate below 3 per cent and/or PCI growth rate below/one per cent, and the other with PCI of Rs.350 or more, total income growth rate of 3 per cent or more and/or PCI growth rate of 1 per cent or more. Considering these two blocks of districts as individual units of observation the relationship between the initial PCI level and income growth rates appears to be strongly positive. But within each block the relationship is somewhat weak. This suggest that growth of a small economic sub-unit like district cannot be appropriately explained without refering to externalities. But as the size of the unit increases, the explanatory power of internal factors tends also to increase. In fact, as we

Table 9 : Number of Districts by PCI Classes and
Total Income Growth Rates

(Number)

PCI Classes (Rs.)	Average Annual Compound Growth Rate (%)						Total
	Below 1.0	1.0- 2.0	2.0- 3.0	3.0- 4.0	4.0- 5.0	5.0 and above	
1. Below 250	–	–	–	1	–	–	1
2. 250 - 300	1	1	1	–	–	–	3
3. 300 - 350	3	1	1		2	–	7
4. 350 - 400	3	2	3	1	1	3	13
5. 400 - 500	–	2	–	4	2	4	12
6. 500 - 600	1	1	–	2	3	1	8
7. 600 - 750	1	–	1	–	1	4	7
TOTAL	9	7	6	8	9	12	51

Table 10 : Number of Districts by PCI Levels and PCI
Growth Rates

(Number)

PCI Growth (Rs.)	PCI Growth Rate % Per Annum							Total
	Below 0.25	0.25- 0.5	0.5- 1.0	1.0- 1.5	1.5- 2.5	2.5- 4.0	4.0 & above	
1. Below 250	–	–	–	–	1	–	–	1
2. 250 - 300	2	–	1	–	–	–	–	3
3. 300 - 350	5	–	–	–	1	–	1	7
4. 350 - 400	5	1	2	1	–	1	3	13
5. 400 - 500	2	–	1	1	2	6	–	12
6. 500 - 600	1	–	–	1	3	2	1	8
7. 600 & above	2	–	–	1	1	1	2	7
TOTAL	17	1	4	4	8	10	7	51

move from the national level to state level and further down
to region and districts, the degree of openness increases
and it tends to influence the   internal mechanism
of growth or the inertia of stagnation.

CHAPTER IV

REGIONAL AND SECTORAL EFFECTS ON INCOME LEVELS

It is seen that the per capita income levels vary widely
across regions and districts of Uttar Pradesh. The growth
rates of the regional and district economies were found to
be positively associated with the initial per capita income
levels. The inter-regional disparities thereby increased
considerably during the reference period. Also, on the other
hand, the State's economic growth was far from being satis-
factory. The situation calls for greater attention to deve-
lopment of backward areas, making it necessary to identify
factors leading to differences in performances of regional
economies. These factors may be classified into two groups.
In the first group are the factors rooted in geographical,
demographic, cultural and socio-economic characteristics, that
are more or less given over a period of time. Related with
these, yet important is the other group of factors which
count on the peoples' capabilities and choices and availability
of worthwhile options of investment and are reflected by eco-
nomic profile and structure. They may be referred to in terms
of sectoral incomes and productivity levels. Measurement of
the influence of these two groups of factors in per capita
income differences among regions and districts, and identi-
fication of major factors within each group would be useful
for visualising the scope and direction of efforts needed for
stimulating the process of economic growth in backward regions.

The present chapter tries to examine as to what extent the inter-district differences in per capita income (PCI) levels have resulted from 'regional' and structural (or sectoral) factors, using a decomposition model described below. The major factors responsible for the inter-regional disparities have been highlighted in the next chapter.

The Decomposition Model

The PCI of an area may be looked upon as product of aggregate productivity per worker (IPW) and proportion of workers to population. The difference of PCI between two areas may be thus decomposed into the corresponding components, referred to here as Productivity Effect (PE) and Dependency Effect (DE).

Given the worker to population ratios, the difference in IPW may be further decomposed into regional and sectoral components. The IPW of an area is constituted by per worker income levels in different branches of production and the production structure. Among areas, there are marked differences in the level of productivity of a particular activity group, which may be attributed to regional characteristics. The extent to which the differences in IPW are explained by regional characteristics has been referred to an Regional Effect (RE). The other major component of the differences in IPW, which results from differences in sectoral weights in the economy, may be termed as Sectoral Effect (SE). The sectoral weights have been defined here in terms of the proportions of workers.

The model is an additive one and runs into two stages. In the first stage the district-wise PCI differences may be decomposed into DE and PE components and in the second stage the IPW differences were analysed in terms of the RE and SE components. The additive formulations adopted in the present context also give out a residual component - interaction effect - in each stage. In the first stage of decomposition,the interaction component indicates how far the dependency between productivity and worker to population ratio influences the PCI levels. Similarly, the balancing component arising in the second stage of decomposition would show the extent of differences in IPW due to interaction between the Regional Effect and Sectoral Effect. The two interaction components have been denoted by IDP and IRS respectively.

Lastly, the exercise draws upon deviations of certain values and ratios of one region or area from another. But then, in order to make the results of decomposition comparable among the areas (districts), it is necessary to work out the deviations from a given set of the values and rations, desirably those for the State as a whole. An averaging of the district-wise components of decomposition would also be necessary for comparability of the results among groups of districts, such as between regions and the State as a whole. The formulations are as follows :

Let

y   Per capita income, i.e. PCI

d   Population dependency (ratio of population to workers based on 1971 Census)

p   per workers income, i.e. productivity (IPW)

N   Number of workers

DE   Dependency effect on per capita income level

PE   Productivity (aggragate) effect on per capita income level

IDP   Component of interaction between dependency and productivity in determination of per capita income level

RE   Regional effect on productivity levels

SE   Sectoral effects; i.e. the effect of activity mix, on aggregate productivity

IRS   Component of interaction between the regional and sectoral effects on productivity

SUFFIXES   i for i^{th} district
j for j^{th} sector of the economy, representing activity groups

Note : A symbol used without the suffix i stands for specified district groups and that without j corresponds to all the sectors taken together.

For $y_i \gtrless y$,

$$\pm y_i \mp y = (1/d_i)\,(\pm p_i \mp p) + p_i\,(\pm 1/d_i \mp 1/d) $$
$$+ (\pm p_i \mp p)\,(1/d - 1/d_i) \qquad \ldots (1)$$

The three components on the right had side of equation (1) are defined as Productivity Effect (PE), Dependency Effect (DE) and the Interaction Effect (IDP), respectively,

Second, for $p_i \gtreqless p$,

$$\pm p_i \mp p = \sum_j (N_{ij}/N_i)(\pm p_{ij} \mp p_j)$$
$$+ \sum_j p_{ij}(\pm N_{ij}/N_i \mp N_j/N)$$
$$+ \sum_j (\pm p_{ij} \mp p_j)(N_j/N - N_{ij}/N_i) \qquad \ldots (2)$$

The three components on the right hand side of equation (2), in that order, are defined as the Regions Effect (RE), Sectoral Effect (SE), and the Interaction Effect (IRS). Here it is assumed that the productivity levels in particular activity groups vary across areas primarily because of given regional characteristics like endowmental conditions and the state of infrastructure.

For groups of districts comprising the regions and the State, the results of above decomposition have been expressed as magnitudes of various components constituting the mean deviations of districti-wise values of PCI and IPW from the corresponding values for the state. Rewriting the expressions (1) and (2), we have

$$\left| y_i - y \right| = PE + DE + IDP \qquad \ldots (1)$$
$$\left| p_i - p \right| = RE + SE + IRS \qquad \ldots (2)$$

For aggregation of the results for a group of districts, K in number, the following procedure has been used.

$$(1/k) \sum \left| y_i - y \right| = (1/k) \sum PE + (1/k) \sum DE$$
$$+ (1/k) \sum IDP \qquad \ldots (3)$$

$$(1/k) \sum \left| p_i - p \right| = (1/k) \sum RE + (1/k) \sum SE$$
$$+ (1/k) \sum IRS \qquad \ldots (4)$$

The summations in the above two expressions are over
the district constituting the group. Lastly, the exercise
is based upon PCI and IPW levels at constant prices (of
1970-71) with a view to filtering out the effects of changes
in inter-district price relatives, if any, in the analysis.

Dependency and Productivity Effects in Inter-District Differences in Per Capita Income (PCI)

This decomposition exercise was done only for the year
1972-73 which is the mid-year of the reference period, rather
than at different points of time because, by and large, the
hierarchy of districts in terms of PCI have remained unaltered
over the period, and,   owing to data limitations, the worker-
population ratios were assured to be given as per 1971 popu-
lation census. For districts with PCI above the State's
average, the mean deviation of the district PCI's from the
State's PCI was Rs.158; the corresponding figures for the
regional groups of districts in this category were : Rs.154,
Rs.150, Rs.68 and Rs.242 for Eastern, Central, Bundelkhand
and Hill regions respectively. The mean deviation of PCI
over the remaining districts (with PCI lower than that of
the State) was Rs.124, while the regional averages were Rs.37,
Rs.102 and Rs.142 for Western, Central and Eastern regions.
Following are the results of the decomposition.

The Table 11 shows that for districts with PCI greater than
that of the State, 4.41 per cent of the average PCI deviation in
the year 1972-73 was constituted by Depednency Effect (DE), as

Table 11 : Dependency and Productivity Effects on
PCI Across Districts

| | | | (Rs. per district) | |
Region/State	Mean deviation of PCI	D.E.	P.E.	I.D.E.
Western	115.45	-26.02	136.27	5.20
Central	118.45	-13.60	132.43	-0.38
Bundelkhand	67.69	6.04	60.28	1.37
Eastern	142.12	-2.64	123.44	21.32
Hill	242.19	154.76	69.53	17.90
STATE				
a) Districts with PCI above State's average	157.79 (100.00)	6.96 (4.41)	141.76 (89.84)	9.07 (5.75)
b) Districts with PCI below State's average	123.78 (100.00)	0.02 (0.02)	111.80 (90.32)	11.96 (9.66)
c) All districts	132.50 (100.00)	3.29 (2.48)	119.31 (90.05)	9.90 (7.47)

Note : 1. PCI, DE, PE and IDP stand for Per Capita Income,
Dependency Effect, Productivity Effect and Inter-
action Effect.

2. The figures in parentheses denote percentages to
corresponding mean deviations of PCI.

against 89.84 per cent by Productivity Effect (PE). The

respective percentages for the remaining districts, taken

together, were 0.02 and 90.32, and those for all the distri-

cts 2.48 and 90.05 respectively with the interaction component

(all districts) 7.47 per cent. On the average, thus, 90 per

cent of the variations in PCI across districts was explained

by variations in IPW, while only a little over 2 per cent by

population dependency ratio. The results aggregated for

regions are however different from one another. Notably, the DE component is negative for district groups of Western, Central and Eastern regions, positive for Bundelkhand and exceptionally high for the Hill region. Also there is considerable variation in the size of the interaction component. It may be recalled here that the model assumes a positive relationship between worker-population ratio (inverse of population dependency ratio) and PCI which is supported by the positive values of DE. But we also find that in case of 15 districts (including 11 from Western region) with PCI above the State's average, the worker-population ratio is relatively low while in an equal number (including 14 from Central and Eastern) having comparatively low PCI, the ratio is higher than that of the State. It suggests that supply of labour in areas with low income level, tends to rise. However, the worker-population ratio was found to be exceptionally high in the Hill region in spite of the PCI being the highest. This situation appears to be mainly because of out-migration of male worker belonging to the hill areas and high degree of female participation in economic activities.

It would be worthwhile in the above context to also look at the relative positions of different regions vis-a-vis the State, in terms of PCI and IPW. Table 12 shows that excepting the Hill, there is a strong positive relationship between PCI and IPW across the regions, giving support to the

results of decomposition. Interestingly, the highest PCI
level in the Hill region was reached quite a bit due to a
high worker's participation rate. It is for this reason
that the DE component for the Hill district groups comes out
to be exceptionally high. Lastly, the interaction component
(IDP), varying in directions and magnitudes across regions,
exhibit the nature and significance of relationship between
PE and DE as different from one region to another.

Table 12 : Indices of Per Capita Income (PCI) and
Income Per Worker (IPW) for Regions (State=100)

Region/State	1968-69		1972-73		1975-76	
	PCI	IPW	PCI	IPW	PCI	IPW
Western	177	126	123	133	122	131
Central	102	100	101	99	101	101
Bundelkhand	104	102	115	112	105	103
Eastern	78	77	70	69	72	71
Hill	140	103	140	109	149	110
State (Index)	100	100	100	100	100	100
Rs. at 1970-71 Prices	430	1390	463	1496	472	1525

If one looks at the decomposition results for individual
districts (Annexure 6), quite a few of such questions regarding
the inter-relationship between per capita income, per worker
productivity and population dependency would arise. However, of
direct relevance here is that the variation in productivity

level was the main source of inter-district difference in
PCI. The 'Regional' and 'Sectoral' effects on the producti-
vity levels across districts are examined below.

Regional and Sectoral Effects in Inter-District
Differences in Total Income Per Worker (IPW)

The exercise of decomposition of IPW into Regional and
Sectoral effects (RE and SE) was carried separately for the
for the years 1968-69, 1972-73 and 1979-76. It may be mentioned
that the number of districts with IPW higher than that of the
state however declined from 24 in 1968-69 to 23 in 1972-73 and
20 in 1975-76. The district-wise results of the decomposition
are presented in Annesures 7, 8 and 9 for the above mentioned
years in that order. The inter-district hierarchy in terms
of IPW was similar, though more pronounced, compared with
that in terms of PCI. The mean deviations of IPW of districts
from that of the State were Rs.431, Rs.562 and Rs.410 in
1968-69, 1972-73 and 1975-76 for district with IPW greater
than the state's average. The corresponding figures for
the remaining group of districts were Rs.311, Rs.387 and
Rs.469, and those for all the district taken together Rs.367,
Rs.466 and Rs.446. The Table 13 gives the decomposition
results aggregated for the regions and the State for 1968-69,
1972-73 and 1975-76. Taking an overall view of the results
it may be observed that the Regional Effect (RE) weighed
twice the Sectoral Effect (SE) in the productivity (IPW)

Table 13 : Regional and Sectoral Effects on IPW
Across Districts

Region/State/Year	Mean Deviation of IPW	R.E.	S.E.	I.R.S.
				(Rs. per district)
Western				
1968–69	394.09	284.15	91.74	18.20
1972–73	477.56	337.84	109.33	30.39
1975–76	340.16	191.03	126.11	23.02
Central				
1968–69	327.51	157.60	189.55	-19.64
1972–73	446.03	202.38	272.45	-28.80
1975–76	462.65	226.98	245.34	- 9.67
Bundelkhand				
1968–69	134.06	100.69	45.48	-12.11
1972–73	197.31	249.27	-9.56	-42.40
1975–76	139.83	39.08	92.54	8.21
Eastern				
1968–69	327.31	199.66	118.44	9.21
1972–73	479.85	328.00	143.03	8.82
1975–76	577.17	418.22	150.42	8.53
Hill				
1968–69	649.31	411.45	96.61	141.25
1972–73	632.08	349.57	111.50	171.01
1975–76	646.96	373.57	120.79	152.60
STATE				
1968–69	367.32 (100.00)	235.06 (63.99)	113.70 (30.96)	18.56 (5.05)
1972–73	465.84 (100.00)	305.24 (65.53)	138.92 (29.82)	21.68 (4.65)
1975–76	445.85 (100.00)	270.17 (60.60)	151.14 (33.90)	24.54 (5.50)

Note : 1. IPW, RE, S^E and IRS stand for total income per worker, Regional Effect, Sectoral Effect and Interaction Effect.

2. The figures in parentheses denote percentages to corresponding mean deviations of IPW.

differences across the districts. These two components
taken together explain 95 per cent of the variation in IPW as
against interaction component (IRS) only 5 per cent. Certain
qualitative differences are also found among the regional
aggregates of RE and SE. For four of the regions, the SE
component was smaller while it was greater than RE in case
of Central region. The weight of RE was the highest and
that of SE the smallest for the Hill region. The weights of
IRS are markedly different among regions and exceptionally
high for the Hill region. The results for Bundelkhand are
not quite clear because of some distortion due to wild
fluctuations in sectoral income levels of the districts,
which are only 4 in number. Over the period, we find a
marginal increase in the proportion of SE particularly for
districts of Western and Hill regions, a similar but
subdued trend taking all the districts together and a reverse
trend across district of Eastern region. As regards the
interaction component (IRS), its magnitude came to be quite
small, taking all the districts together, though it varied
considerably among district groups constituting the regions.
The magnitudes of IRS do not exhibit any meaningful trend, but
they indicate how different are the interactions between RE
and SE. The system of inter-dependencies between the regional
and structural effects needs however be studied separately.

The main findings of the decomposition exercises may now be put together, as follows. First, the inter-district differences in per capita income (PCI) levels were mainly due to the difference in average productivity levels (total income per worker, IPW) to the extent of 90 per cent. The analysis also indicated that, generally, there was a negative relationship between PCI level and worker's participation rate except in case of the Hill region where a high proportion of workers raised its PCI level above that of the most developed Western region in spite of a lower IPW. Second, the inter-district differences in IPW in the State appeared to be mainly due to region specific conditions of development. The sectoral structure of activities also contributed to the variations in IPW, but with a weight about half of that of the Regional Effect. With an explanatory power of 95 per cent accounted for by these two groups of factors, the dependence of sectoral development on regional characteristics caused around 5 per cent variation in IPW. Third, at regional levels, the weights assumed by these components indicate that differences in the levels of development between Western region and the State as a whole, and those between the State and Eastern region, were mainly on account of regional characteristics. The regional effect was found to be the most pronounced for the Hill districts. In case of Central region, however, the inter-district differences in IPW were more due to sectoral effect. And, fourth, as follows from the above,

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the Estern and Central regions,/represent about 38 per cent

and 18 per cent of the State's population and are the lowest

PCI regions,   need special attention in the

context of the State's economic development.   It may be men-

tioned here that in the recent past the government has been

specially concerned about the development of so called

'special problem areas' namely the Eastern, Bundelkhand and

Hill regions.   The situation calls for more serious efforts

for development of the Central region as well.

CHAPTER V

FACTORS ASSOCIATED WITH STATE'S ECONOMIC
GROWTH AND REGIONAL INCOME DISPARITIES

At an aggregative level it is possible to visualise an
inter-relationship among structure of economic activities
technological progress and performance of an economy over a
period of time. Between regions, these inter-relationships
are likely to differ on account of 'regional' factors (end-
owmental, socio-economic and cultural) leading to sectoral
imbalances and inter-regional disparities, as is quite
evident in the case of Uttar Pradesh. Among the five regions
of the State, contribution to the State's total income by
the Western region was over 40 per cent, followed by Eastern
(30%), Central (18%), Bundelkhand (5%) and Hill (7%), varying
marginally during the period 1968-76. The per capita income
(PCI) level was the highest in Hill region, followed by
Western, Bundelkhand, Central and Eastern in that order (Table
14). Normally the PCI level is positively associated with
the proportion of income from non-agricultural activities,
particularly the manufacturing. The table 14 shows that the
percentage contribution of manufacturing sector to total
income was highest in the Western region, followed by Central,
Eastern, Bundelkhand and Hill regions. Thus the regional
hierarchy in terms of PCI is entirely different from that in
terms of the proportion of income from manufacturing sector.

It establishes that, on account of regional characteristics, the sectoral patterns of the regional economies are different. A look out for economic growth and reduction in inter-regional disparities involves a study of the size and characteristics of the regional economies. The following section therefore

Table-14 :   Regional Per Capita Income (PCI) Levels and Patterns of Sectoral Development.

Region/State/Year	PCI at 1970-71 prices (Rs.)	Regional Share in State's Income(%)	Sector*						
			A	PRI	M	C	SEC	TER	Total 3+7+8
0	1	2	3	4	5	6	7	8	9
Western									
1968-69	502	41.20	56.4	56.5	9.3	7.0	16.3	27.2	100
1975-76	574	43.02	55.4	55.4	12.5	6.7	19.2	25.4	100
Central									
1968-69	439	18.23	55.8	55.8	9.7	4.3	14.0	30.2	100
1975-76	479	18.03	55.5	55.2	11.0	4.3	15.3	29.5	100
Bundelkhand									
1968-69	448	5.03	66.6	66.7	5.1	4.5	9.6	23.7	100
1975-76	496	5.12	68.6	68.6	4.2	4.4	8.6	22.8	100
Eastern									
1968-69	336	29.52	63.8	64.5	8.9	3.6	12.5	23.0	100
1975-76	342	27.20	64.0	64.1	10.0	3.9	13.9	24.0	100
Hill									
1968-69	603	6.02	63.8	63.9	3.3	7.3	10.6	25.5	100
1975-76	703	6.63	65.3	65.4	4.4	6.9	11.3	23.3	100
State									
1968-69	430	100.00	59.4	59.7	8.7	5.4	14.1	26.2	100
1975-76	472	100.00	58.2	58.5	10.6	5.4	16.0	25.5	100

* A : Agriculture & allied; PRI : Primary; M : Manufacturing; C : Construction, SEC : Secondary; and T : Tertiary

examines the regional contributions to the State's income levels and growth rates during the reference period. The subsequent section highlights, the factors found to explain the prevalence of inter-region disparities in PCI.

Regional Contributions to Levels and Growth Rate of State's Income

Table-15 shows that the percentage contribution of the Western region to income from major sector of the economy has been the highest and showed an increasing trend over the period. This region produced 41 per cent of the State's income from agriculture and allied activities against 29 per cent by the most populated Eastern region, a low of 6 per cent and little over 7 per cent by Bundelkhand and Hill regions respectively in the year 1975-76. In that year the percentage in respect of manufacturing sector was 52.6 for Western, the highest, as against 23.7, 17.2, 4.7 and 2.8 for Eastern, Central, Hill and Bundelkhand respectively. To examine as to how have the regions and the major sectors of the regional and State economies have contributed to the State's economic growth rate, the logic runs like this.

If Y denotes the total income level, suffix i the ith region and j the jth sector, then

$$yi = \sum_j yij \text{ and } \triangle yi = \sum_j \triangle yij, \text{ so that}$$

$$\triangle yi/yi = \sum_j (\triangle yij/yij) (yij/yi) \quad \dots \quad \dots \quad (1)$$

$$y = \sum_i yi = \sum_j yi \text{ and } \triangle y = \sum_i \triangle yi = \sum_j \triangle yj, \text{ so that}$$

$$\triangle y/y = \sum_i (\triangle yi/y) = \sum_j (\triangle yj/y), \text{ therefore}$$

$$\triangle y/y = \sum_i (\triangle yi/yi) (yi/y) \quad \dots \quad \dots \quad (2)$$

$$\triangle y/y = \sum_j (\triangle yj/yj) (yj/y) \quad \dots \quad \dots \quad (3)$$

The equation (1) shows the additive components of growth rate of total income of the ith region, in terms of sectoral

growth rates of the region and the proportions of the

regional income contributed by individual sectors. Equation

(2) shows the growth rate of the state's economy expressed

Table-15 : Regional Contributions to Sectoral Incomes
of the State

Region/ State/ Year	Regional Contributions to the State's Economy						
	All Sectors	A	PRI	M	C	SEC	TER
0	1	2	3	4	5	6	7
Western							
1968-69	41.20	39.1	39.0	44.2	53.3	47.7	42.7
1975-76	43.02	41.0	40.8	50.8	53.3	51.6	42.8
Central							
1968-69	18.23	17.1	17.0	20.4	14.6	18.1	21.0
1975-76	18.03	16.6	17.0	18.7	14.4	17.2	20.9
Bundelkhand							
1968-69	5.03	5.6	5.6	3.0	4.2	3.5	4.5
1975-76	5.12	6.0	6.0	2.0	4.2	2.8	4.6
Eastern							
1968-69	29.52	31.7	31.9	30.1	19.8	23.2	25.9
1975-76	27.20	29.0	28.8	25.7	19.6	23.7	25.6
Hill							
1968-69	6.02	6.5	6.5	2.3	8.1	4.5	5.9
1975-76	6.63	7.4	7.4	2.8	8.5	4.7	6.1
State	100.00	100.00	100.00	100.00	100.00	100.00	100.00

in terms of regional growth rates amd regional shares in the

States income and equation (3) gives the break-ups the State's

income growth rate in terms of the sectoral growth rates and

sectoral income shares. The model is additive and it assumes

constancy of regional and sectoral weights. Over the refere-

nce period however the regional and sectoral weights have in

fact changed only marginally. Finally, the growth rates

which have been sought to be decomposed are the average annual

compound growth rates taking into account all observations at

different points of time during a year and are thus likely to
be different from those based on end-points only. As a result
the two sides of the expression (2) or (3) may not balance
perfectly. However, so long the difference between the left
hand side and the right hand side of the result is marginal the
purpose would be served. In the present case the balancing
factor was found to be/more than 0.78 per cent of the sum total
for either of the two expressions.

      The table-16 shows that contribution of the Western region
alone in the growth rate of the State's economy was over 54 per
cent, followed by Central region at about 18 per cent and
Eastern region only 14 per cent in spite of its biggest size in
terms of population. The primary activities which contributed
over 64 per cent of the income of Eastern region contributed
only about 26 per cent to the total income growth rate of the
region. Generally, a region with a higher proportion of income
from manufacturing sector had made greater contribution to the
state's income growth rate. Within a region, the percentage
contribution of primary sector in total income growth rate level
was generally lower than its contribution to the total income
level. But the percentage contribution of the secondary sector
in the total income growth rate was higher than its contribution
to the total income level. Exceptions may however be seen in
case of the Hill region where the contribution of primary sector
was more in the growth rate than its contribution to the total
income level. Also in Bundelkhand an extra low growth of
manufacturing activities made the contribution of secondary

sector in the growth rate lower than its contribution to the
income level in proportional terms.

Table 16 : Regional and Sectoral Contributions to
Economic Growth Rates (1968-76)

Region/ State	Total Income Growth Rate	Regional Contribu- tion	Sectoral Contributions within regions and the State			
			PRI	SEC	TER	Total
0	1	2	3	4	5	6
Western	4.82	54.24	52.38	24.75	22.67	100.00
Central	3.54	17.62	43.08	23.32	33.60	100.00
Bundelkhand	4.19	5.76	66.74	7.78	25.48	100.00
Eastern	1.76	14.19	25.51	25.95	48.54	100.00
Hill	4.98	8.19	66.41	13.65	19.94	100.00
State	3.69	100.00	50.03	22.16	27.81	100.00

Note : The Column 1 shows the average annual compound
growth rates of total income, taking into account
all observations for different years during the
reference period. Col.2 shows the regional
contributions to the growth rate of the State's
economy, found to be 3.69 per cent per annum.
Col.6, the total of Cols.3,4 and 5, corresponds to
the Col.1.

Factors leading to Inter-Regional Disparities

The regional income estimates for different years during
the reference period show that inter-regional differences in
PCI have increased. Generally, the regions with a high PCI
level registered relatively higher economic growth rates. Among
areas, the differences in growth rates of PCI may be associated
with various demographic, and socio-economic characteris-
tics, towards identification of factors which have cause the
inter-regional disparities to persist. A few observations in

this regard are presented below, based on an inter-district analysis. First, the PCI growth rate had a very significant correlation coefficient (0.95) with the growth rate of total income. The population growth rates of regions with relatively high PCI level were also comparatively higher. Thus, high density of population, which has often been associated with backwardness of a region, does not explain the existing inter-regional differences in PCI levels and growth rates. Second, areas with a lower proportion of workers to population had generally a higher PCI growth rate. It suggests that in relatively backward areas with low levels of technology and productivity, the supply of labour force tends to increase due to the pressure on poor households to supplement their incomes. Capital formation in such areas is likely to be small resulting into slow economic growth or stagnation. Third, the PCI growth rate was found to be negatively associated with the shares of primary sector (or almost equally well with those of agricultural sector) in total income but had a strong positive relationship with growth rates of that sector. In other words, given the economic structure, development of agriculture has been crucial for any perceptible growth of PCI. But in that process, non-agricultural activities grew relatively faster. Fourth, growth rate of PCI was found to be positively associated with the percentage contribution and growth rate of income from secondary sector and proportion of urban population, both of which support each other. It may also be mentioned that the association between growth rate of PCI and that of 'secondary' sector came to be stronger than that between the former and the

growth rate of tertiary sector even though the contribution
of 'tertiary' sector was over twice that of 'secondary' sector
in the State's total income. As the same time association
between urbanisation and growth of tertiary sector was stronger
than that between the former and the growth rate of secondary
sector. Thus, both absolute and relative growth rates of
secondary sector are positively related with PCI growth rate,
while the tertiary sector appears to be guided by the extent
of urbanisation. Moreover, though the weight of tertiary
sector in the aggregate income level was higher than that of the
secondary sector, it is the growth in the latter which was more
crucial for growth in PCI. The tables 17 and 18 give eviden-
ces to the above observations. The sectoral growth rates and
PCI growth rates for the districts are presented in Annexure-10.
The districtwise proportions of income by primary, secondary
and tertiary sectors are shown in Annexure-11, based on the the
district income estimates at constant prices of 1970-71, and in
Annexure-12 based on the income estimates at current prices.

There are various characteristics other than those considered
above, which could be associated directly with growth of
individual sectors, among which agriculture (cultivation) and
manufacturing sectors were especially important in view of the
following. Among the three major sector-groups, namely primary,
secondary and tertiary, the primary sector compasses agriculture,
animal husbandry, forestry and logging, fishing and mining and
quarrying. In the state's total income, the percentage contri-
bution of agriculture and animal husbandry, together, lay between

Table 17 : Relationships among Per Capita Income Growth
Rate and Selected Indicators of Development
Across All the 51 District Observations

(Correlation Coefficient)

INDICATORS	Sectoral Shares			Sectoral Growth Rates			Worker to pop. ratio	Urban pop. ratio
	PRI	SEC	TER	PRI	SEC	TER		
1. PCI Growth rate (1968-76)	−0.44	0.46	0.37	0.95	0.30	0.24	0.04	0.31
2. Sectoral Shares (1968-69)								
PRI	1	−0.79	−0.95	−0.31	−0.54	−0.47	0.32	−0.90
SEC		1	0.57	0.41	0.35	0.46	−0.27	0.56
TER			1	0.21	0.55	0.40	−0.29	0.93
3. Sectoral Growth Rates (1968-76)								
PRI				1	0.10	0.24	0.08	0.16
SEC					1	0.37	−0.14	0.57
TER						1	−0.36	0.51
4. Worker to population ratio (1971)							1	−0.26
5. Urban population ratio (1971)								1

Minimum Significant values of correlation coefficient at 45 d.f.
at 5% and 1% levels are 0.2875 and 0.3721 and those at 50 d.f. at
the two levels of significance 0.2732 and 0.3541.

Table 18 : Relationships of Per Capita Income Growth
Rate with Selected Indicators of Development
Across 42 Districts of the Western, Central
and Eastern Regions

(Correlation Coefficient)

INDICATORS	Sectoral Shares			Sectoral Growth Rates			Worker to pop. ratio	Urban pop. ratio
	PRI	SEC	TER	PRI	SEC	TER		
1. PCI Growth Rate	-0.69	0.64	0.61	0.92	0.47	0.36	-0.59	0.56
2. Sectoral Shares								
PRI	1	-0.81	-0.95	-0.51	-0.57	-0.50	0.40	-0.90
SEC		1	0.59	0.58	0.40	0.56	-0.29	0.60
TER			1	0.40	0.57	0.40	-0.39	0.93
3. Sectoral Growth Rates								
PRI				1	0.20	0.33	-0.46	0.35
SEC					1	0.43	-0.20	0.62
TER						1	-0.13	0.52
4. Worker to population ratio							1	-0.35
5. Urban population ratio								1

Minimum significant values of correlation coefficient at 40 d.f.
at 5% and 1% levels are 0.3044 and 0.3932.

56 and 58, against a total of only around 1.4 per cent from forestry and logging and fishing and a very small proportion of about 0.3 per cent from mining and quarrying during the reference period (27), within 'agriculture and animal husbandry' group, the animal husbandry sector contributed 23 per cent of net output (28) and 17 per cent of the gross output (29) in the year 1970-71. It is seen that the relative size of animal husbandry sector was not very small. But, for want of adequate data on production and inputs for regions/districts, it could not be possible to take animal husbandry sector separately for analysis of the inter-regional pattern of development. Within the secondary sector, growth of manufacturing activity is more directly associated with real growth of the economy as compared to growth of construction activity over the short period of time. As regards the teritiary sector, its contribution to total income has been greater than that of manufacturing sector. However, the inter-regional pattern of growth in this sector has not been analysed for the following reasons. First, the annual growth rate of tertiary sector in the State was about 4 per cent, which was considerably lower than that of manufacturing (over 6 per cent) during the reference period (30). Second, the relative size of tertiary sector was found to be strongly associated with the size of administrative population. Across districts, the correlation coefficient between percentage contribution of tertiary sector in total income and proportion of persons employed in public sector to total population came to 0.80. Third, by that token, the size of tertiary sector does not appear to be an appropriate indicator of economic development, so far as this analysis is concerned. In fact the bulk of rural population is

scarcely covered by, public facilities. On the other hand,
institutional facilities are also created in relatively
backward areas as a matter of developmental policy. In other
words a growth in tertiary sector might occur even without a
real increase in production and income of the people in general.
The inter-regional disparities in PCI may thus be meaningfully
explained with the help of factors associated with agricultu-
ral and industrial development. The districtwise values of
indicators used in the present context are shown in Annexures
10 and 13.

Development of Agriculture

The development of agriculture, as it is generally conceived,
has been severely constrained in three of the regions, namely
Bundelkhand, Hill and Eastern, on account of endowmental factors.
In Bundelkhand the quality land is poor. The preparation of
land for cultivation in the region is arduous, rainfall as well
as moisture retention capacity of the soil is low and develop-
ment of tubewell irrigation conspicuous. As such the crop
yield rates are generally low, proportion of high value crops
is very small and that of coarse grain crops is relatively high.
For instance/the average yields of wheat and paddy in the region
in 1975-76
were estimated at 10.23 and 7.82 quintals per hectare, compared
to 13.57 and 9.29 quintals per hectare respectively for the
state and being the lowest among all the regions (31). The
gross value agricultural output for the year (1976-77) in case
of Bundelkhand was estimated at only Rs.1494 per hectare of net
area sown, against Rs.3314, Rs.2644, Rs.2401 and Rs.3306 Western,
Central, Eastern and Hill regions and Rs.2703 for the State(32).

Still more stringent are the conditions in hill areas, where preparation of land and its maintenance is much more difficult and there is hardly any scope for development of irrigation. The Eastern region, on the other hand, faces droughts and floods more frequently, and also has the smallest size of land-holdings, with the highest proportion (90 per cent) of small and marginal holdings. The cultivators, in the Eastern could thus take little advantage of the modern agricultural techno-logy. It is for these reasons that Bundelkhand, Hill and Eastern regions have been recongnised by the government as special problem areas. It may be mentioned here that Bundel-khand and Hill regions together represent only a little over 9 per cent of the State's population, of which 38 per cent is accounted for by Eastern region alone. Agricultural develop-ment in the Eastern region therefore requires much greater attention not only because of its size, but also because the growth rate of 'Agriculture and Allied' sector was the lowest in case of this region, being 0.71 per cent per annum, against 4.45, 2.32, 4.36 and 5.04 per cent per annum respectively for Western, Central Bundelkhand and Hill regions respectively, and 2.99 per cent for the State during the reference period 1968-76.

It may however be noted that the inter-regional dispari-ties in Uttar Pradesh persisted very much due to the differences in agricultural growth rates, as depicted above. The sources of agricultural growth may be defined as (increases in) area under cultivation and productivity levels, where an increase in agricultural productivity may, in turn, be explained in

terms of changes in crop yield rates and cropping intensity
and shifts in the cropping pattern. Over the reference
period, however, there was no increase in the State's net
area sown, which remained around 173 lakh hectares but the
gross value of output showed considerable increase (33).
Thus growth in agricultural sector was resulted mainly from
increase in the output per unit of land. This is supported
by Table-19, as also by a highly significant positive corre-
lation coefficient (0.48) between the growth rate of primary
sector and the growth of agricultural productivity across
the districts. Regarding the growth in agricultural product-
ivity, let us take note of a few observations based on a
decomposition exercise (34) across the U.P. districts over
the reference period 1968-77. Accordingly, the effect of cro-
pping pattern shifts was found to be most important, contri-
buting to 49 per cent of the total variation in output
growth across all the districts on an average during 1968-77,
while the contribution of yield rates was a little over 41
per cent, of 'area' about 3 per cent and interaction between
yield rate and cropping pattern about 7 per cent. In that
exercise 'area' refers to growth of total cropped area and
hence to increase in cropping intensity because there was
almost no change in net area under agriculture in the State.
The growth in agricultural productivity was thus mainly due to
shifts in cropping pattern, followed by increase in crop
yields. In other words, though the coverage of high yielding
varieties and the modern agricultural package contributed
significantly to the agricultural growth rate, commercialisa-

tion was relatively more important in it during the reference period.

It is evident from the above that 90 per cent of the growth in agricultural productivity in the state during 1968-77 occurred due to improvements in technology and shifts in cropping pattern. Change in cropping intensity had, however, little impact on productivity. In fact, the small farmers, on account of their agricultural subsistence and limitations to resource access, resort to making more intensive use of land for increasing production. This is evident by a highly significant and negative correlation coefficient (-0.84) between cropping intensity and average landholding size across districts.

The major factors accounting for the inter-regional variations in agricultural growth rates come out to be the coverage and quality of irrigation and landholding size. Table 20 shows strong positive correlation coefficients of agricultural productivity with the coverage of irrigation and the proportion of irrigated area served by tubewells. The table also shows that fertilizer consumption increased with increase in irrigation and further with coverage of tubewells, which provide assured irrigation. The increase in fertilizer consumption was more marked in areas with relatively large land holdings, where coverage of irrigation was also greater. Within this framework, the differences in levels and growth rates of agricultural sector among the Western, Central and Eastern regions, may be attributed to the differences in the extent of coverage and quality of irrigation and size of

agricultural holdings. These regions represent about 91

per cent of the State's population. The remaining two

regions, namely Hill and Bundelkhand, are typically different,

where agricultural growth rates were found to be relatively

high, even though the agricultural technology and cropping

pattern remained by and large traditional. The problems of

these two regions need to be studied separately.

Table 19 : Distribution of Districts by Annual Growth
Rates of the Primary Sector and Agricultural
Productivity (1968-76)

(Number of districts)

Productivity Growth Rate %	Primary Sector Growth Rate %					Total
	Below 1	1-2	2-3	3-4	4 or more	
Below 1	10	2	2	-	-	14
1 - 2	-	3	1	2	-	6
2 - 3	1	1	2	1	3	8
3 - 4	-	1	1	2	-	4
4 or more	1	1	6	3	8	19
Total	12	8	12	8	11	51

Growth of Manufacturing Sector

The size of manufacturing sector in the state is relatively

small. In the year 1975-76, the contribution of this sector to

the state's total income was only about 11 per cent. The corres-

ponding figure was about 13 per cent, the highest, in case of

Western region against a low of a little over 4 per cent for

Bundelkhand and Hill regions each. The inter-regional differe-

nces in industrial growth rateswere more pronounced than the

differences in agricultural growth rates, mainly for two reasons.

Table 20 : Association Between Irrigation Development,
Fertilizer Consumption, Cropping Intensity,
Landholding Size and Agricultural
Productivity.

Description(Pairs of Indicators)	Reference Period	Correlation Coefficient
1.Agricultural Productivity per hectare with		
1.1 Net Irrigated areas as proportion of Net Area Sown	1968–69 1975–76	0.59 0.39
1.2 Proportion of Irrigated areas under tubewell irrigation	1968–69 1975–76	0.44 0.09
1.3 Gross Irrigated area as proportion of Gross cropped area	1968–69 1975–76	0.57 0.43
1.4 Fertiliser distribution per hectare	1968–69 1975–76	0.68 0.46
1.5 Cropping Intensity	1968–69 1975–76	0.12 0.22
2.Average Land Holding Size with		
2.1 Growth rate in item 1.3	1968–76	0.67
2.2 Growth rate in item 1.4	1968–76	0.97
2.3 Cropping Intensity	1968–76	−0.84
3.Fertilizer distribution per hectare with		
3.1 Net irrigated area as proportion of net area sown	1968–69 1975–76	0.51 0.58
3.2 Gross Irrigated area as proportion of Gross cropped area	1968–69 1975–76	0.72 0.80
3.3 Proportion of Irrigated area under tubewell irrigation	1968–69 1975–76	0.51 0.58
4.Fertilizer distribution per hectare-Annual Growth rate, with		
4.1 Gross Irrigated area as proportion of Gross cropped area-Annual Growth Rate	1968–76	0.73

First, the demand threshold for viability of manufacturing activities is relatively larger, extending, for instance, beyond district or regional boundaries. Second, industrial activities tend to get concentrated in areas that are better served with infrastructural facilities, material supplies and market. Thus, of greater relevance to industrial growth in a region, than to agricultural growth, are economic and external factors vis-a-vis the endowmental and endogeneous factors. In the present context, however, the variations in industrial growth rates were examined in association with the situations obtaining within regions, namely the state of agricultural development, scale of industrial activities and availability of the infrastructural facilities. It may be mentioned here that the analysis of the pattern of industrial growth was confined to these aspects only for want of adequate data to make it more comprehensive. Further, the reasons for counting on agricultural development in the context of agricultural growth are twofold. First, the economic conditions of the people in majority are linked with the performance of agriculture. A perceptible growth in agricultural sector might therefore induce growth in industrial sector through income-demand-production relationships. Second, through the process of economic development, inter-sectoral linkages tend to get strengthened. For instance, with agricultural modernisation including mechanisation, the input-output linkages between agricultural and industrial sectors are, likewise, expected to get established and strengthened. Following are the main observations regarding factors responsible for differences in industrial growth rates among regions.

First, there is evidence that increase in agricultural productivity had led to economic diversification in favour of non-agricultural activities(35). It may be recalled here that growth of the agricultural sector during the reference period was mainly on account of increase in the productivity per unit of land. But then, as agricultural subsistence continued to prevail in major parts of Uttar Pradesh, and the phenomena of development was not sufficiently widespread, the inter-sectoral linkages in the State's economy were found to be generally weak(36).

Second, there was an indication that the small manufacturing sector derived strength from the growth of agricultural sector. The value of correlation coefficient between the growth rates of agriculture and unregistered manufacturing sector across districts worked out to 0.35 (significant at 5% level). But the correlation coefficient between the growth rates of agriculture and the registered manufacturing sector was only 0.17.

Third, the sectoral income estimates for the regions show that during the period 1968-76, the registered manufacturing sector has grown faster than the unregistered sector. According to table-21 the share of registered sector in the total income from manufacturing in the State was 41 per cent in 1968-69. The figure rose to about 54 per cent in 1975-76. Over this period the manufacturing sector grew at the average annual rate of 6.18 per cent. The proportion of income from unregistered manufacturing also declined in all the regions except Bundelkhand where industrial growth rate was found to be the lowest.

Fourth, as regards the relationship between availability

of infrastructure and institutional finance, it was examined

summarily on an inter-district basis, according to which

availability of institution finance was crucially important

for industrial growth. The correlation coefficients presented

in Table-22 show that density of roads and village electrifi-

cation have positive impact on growth of manufacturing sector,

although the corresponding correlation coefficients were

Table 21 : Size Composition of Registered and Un-
Registered. Manufacturing Sectors and Growth
Rates of Manufacturing Sector in Regions of
Uttar Pradesh

Regions	Percentage of Income from Manufac-turing produced by				Annual Growth rate of income from Manufacturing 1968-76 %
	Registered Sector		Un-Registered Sector		
	1968-69	1975-76	1968-69	1975-76	
Western	35.82	56.22	64.18	43.78	8.52
Central	55.05	61.58	44.95	38.42	6.02
Bundelkhand	17.29	5.98	82.71	94.02	1.56
Eastern	40.82	45.56	59.18	54.45	2.85
Hill	50.42	62.29	49.58	37.78	6.31
State	41.03	58.97	58.97	46.38	6.18

statistically not significant. The relationships of growth in

income from manufacturing with availability of institutional

finance as well with actual availment of loans were however found

to be both positive and statistically significant.

It follows from the above that there is a dichotomy between

the growth of industrial sector and its linkage with agricultural

sector.   While the growth of unregis-

tered manufacturing sector appears to be positively associated

Table 22 : Growth Rate of Manufacturing Sector in
Association with Infrastructural facilities and
availability of institutional finance.

Indicators	Correlation Coefficients with growth rate of manufacturing sector	
	Set I	Set II
1. Length of pucca road per unit of geographical area(1975)	0.19	0.22
2. Percentage of villages at below 1km. from pucca road(1975)	0.06	0.05
3. Percentage electrified inhabited villages (1976)	0.20	0.19
4. No.of bank units per lakh of population (1973-74)	0.28*	0.51*
5. Amount of loan advanced by commercial banks per capita in 1975-76.		
5.1 Non agricultural sector	0.44**	0.50**
5.2 Retail trade & small business	0.38**	0.43**
5.3 Small industries, craftsmen	0.39**	0.42**
5.4 Total	0.23	0.37*

*Significant at 5% level

**Significant at 1% level

Note: T e growth rate of manufacturing sector refers to
the period 1968-76. The set-I signifies all the
district observations and set-II only 46 observations,
excluding hill districts. Item 5.1 represents only
the priority/weake sector. Where the figures for a
district is the difference in balance outstanding.

with growth agricultural sector, which represents the rural econo-

my, it is the registered manufacturing sector which exhibited

higher rate of growth. This might be so because large industrial

sector has a larger demand base and uses relatively more efficient

technology. The development of large scale industrial sector is

important for growth of the national or state economies. But it

does not appear to have much significance for regional or district

development over a short period.

Chapter VI

PUBLIC POLICY AND REGIONAL DEVELOPMENT

Towards achieving faster growth of the state's economy and reducing inter-regional disparities, the role of the government lies in creating physical infrastructure and institutional facilities and providing inducements for diversification and growth of economic activities on a preferential basis in backward areas. If its important therefore to briefly examine what have been the inter-regional priorities of development and whether could they bring about sufficient growth in backward district/regional economics. This involves a study of the inter-regional and inter-district pattern of public expenditure, flow of institutional finance and progress of the infrastructural facilities. The flow of institutional finance in a region or district is however not directly under the perview of the government, but there the role of the Government lies in drawing out plans for extending coverage of the banks to unserved areas, making available investment finance for economic activities, particularly those on priority list, and providing incentives like subsidies on capital and interest charges for promoting investment in the priority sector. In the present context it is intended to bring out the inter-regional pattern of resource inflows and to examine whether this pattern implied a preference for backward areas. It seems however necessary to mention beforehand, the requirements and availability of data and sources thereof.

Data Base

A study of the inter-regional priorities of development
would require data on 'divisible' and 'non-divisible' components of
the developmental expenditure incurred by the government on
capital and revenue accounts in different regions and districts.
Since certain developmental schemes are taken up for region
specific purposes while others are ment for the State as a whole,
the inter-regional priorities would be more appropriately
revealed by the regional, divisible, component of the public
expenditure. Instead however only the plan expenditure (divisible)
data was available for major heads of development in respect of
the regions for the years 1974-75, 1975-76 and 1976-77, published
on ad-hoc basis in the State's annual plan (Draft) for 1978-79,
Volume-1. For the districts also, the plan expenditure data was
available only for the years 1974-75, 1975-76 and 1976-77, from
the district annual plans for the year 1977-78. It related to
the schemes and projects of the State Sector, the State Corpora-
tions, Centrally sponsored ones and of the   Central Sector.
In absence of worthwhile alternative, the aforesaid regionwise
and district-wise figures of plan expenditure were taken as proxy
for the public investments. The corresponding data for earlier
years of the reference period, i.e. 1968-69 to 1973-74, was not
available. It was thus not possible to relate the growth of
public investments with the growth of a regional or district
economy. Further, not much reliability could be attached to the
expenditure data reported in the district plans due to organisa-
tional problems. Also, in case of certain districts the data for
all the three years was not available. For the study of the

inter-regional pattern of expenditure, therefore, the reported
expenditure figures were averaged over the three years. The
average annual plan expenditure figures thus obtained were
aggregated for the agricultural and non-agricultural schemes.
The expenditure on agricultural schemes is the sum total of that
on State Irrigation, Soil Conservation, Storage and Warehousing,
Cane Development, Area Development, Command Area Development,
Community Development, general programmes of Animal Husbandry,
Dairy, Fishery and Forestry including strengthening of the
development departments at district level. For the purpose of
the analysis, the district wise per capita average annual plan
expenditure (1974-77) - total, agricultural and non-agricultural-
was used.

The data on institutional finance as available in many of the
district plan documents, was incomplete. Alternatively, some
data on commercial bank loaning in the districts was available
from the Directorate of Institutional Finance, Government of
Uttar Pradesh, showing the total amount of advance made and the
total advances to the 'priority/weaker' sectors together as on
last friday of December 1975 and 1976. The 'priority/weaker'
sectors included agriculture, small scale industries, transport,
retail trade and small business, professionals and self employeds,
and industrial estates. The annual amount of loan disbursed in
a district, the total for all sectors and that for the 'priority/
weaker' sectors, in the corresponding year 1975-76 was worked
out as the difference of the advances (cumulative) made upto
December of 1975 and 1976. For the individual sectors in the
group 'priority/weaker' sectors, the data showing only the

'balance outstanding' was available at the two points of
time. The difference between the balance outstanding was also
analysed as proxy for inter-district pattern of loaning for
want of any other alternative, though it lacked credibility of
an indicator for resource inflows. Another major source of
financing in the agricultural sector is the U.P. State Co-opera-
tive Land Development Bank, from which figures of loan distri-
buted in different districts during 1975-76 was collected. The
sum total of the plan expenditure averaged over 1974-77, the
commercial banks' financing in 1975-76 and Land Development
Bank advances during 1976-77 was used as an indicator of inter-
regional and inter-district variations in total annual inflow
of resources. Presented below are the inter-regional pattern
of plan expenditure and institutional finances on the whole and
with particular reference to development of agricultural and
non-agricultural sectors. The inter-district patterns of plan
expenditure and institutional financing are shown in Annexure
13.

Total and Per Capita Plan Expenditure (Divisible) and Bank Loans

Taking the average annual plan expenditure over 1974-77
as that corresponding to the year 1975-76, the total of plan
expenditure (divisible) and bank loans in that year in the State
amounted to Rs.420.27 crores, of which Rs.256.52 crores (61.04
per cent) was in the form of plan expenditure, Rs.140.41 crores
(33.41 per cent) financed by commercial banks and Rs.23.34 crores
(5.55 per cent) especially for agricultural purposes by the
U.P.State Co-operative Land Development Bank (LDB). Typically
for the Hill region the per capita total annual flow was

Rs.102.76, which was the highest, while financing from LDB
was of the lowest order as compared with other regions (Table
23). The proportions of public expenditure in the total resource
flows for Bundelkhand, Hill and Eastern regions were 87.75 per
cent, 72.36 per cent and 69.45 per cent, which were much higher
than those of Central and Western regions. The shares of the
institutional finance in these regions where relatively smaller.
The most disadvantaged regions in terms of per capita total
resource flow were the Eastern and Bundelkhand.

It may be recalled here that during the reference period,
the per capita income was highest for the Hill region, followed
by Western, Bundelkhand, Central and Eastern region, and the size
of population largest in the Eastern region, followed by Western,
Central, Bundelkhand and the Hill region in that order. Also,
Hill, Bundelkhand and Eastern regions have been recognised as
special problem areas of the State. The average annual growth
rate of per capita income of these three regions were found to
be 2.45 per cent, 1.97 per cent and (-)0.96 per cent. The
situation therefore demanded the priorities for regional alloca-
tions in the reverse order. It would be interesting to look
at the regional and sectoral break-ups of the financial flows
accruing from different sources separately.

Plan Expenditure

Over the period 1974-77 the sum total of the divisible
regional components of the yearwise plan expenditure ranged
between 47 per cent and 59 per cent of the State's total plan
expenditure incurred (Table 24), giving an average of 53.43 per
cent. In the year 1976-77, compared with 1974-75, the propor-

tion of plan expenditure increased only for the Western region,
from 20.53 per cent to 24.06 per cent, while the figure in case
of other regions declined. The share of the most backward
Eastern region in the total divisible expenditure (1974-77) was
about 39 per cent, being the highest, followed by 22 per cent
for Western and Central each, and about 13 per cent and 5 per
cent for the Hill and Bundelkhand regions. However, the average
annual per capita expenditure was highest (Rs74.36) in Hill
region, where the financial involvement in carrying out develop-
ment programmes is much higher per unit of physical progress
than that in other regions. Moreover, even if the allocation
for the Hill region was drastically reduced, it would have not
implied any marked increase in the per capita allocation for
other regions, particularly the most backward Eastern region,
because of the difference in the size of population.

Save the Hill region, the per capita plan expenditure was
highest in the Central (Rs.32.36), followed by Eastern (Rs.27.04),
Bundelkhand (Rs.25.52) and Western (Rs.16.30). Notably, the
figure for Eastern region, which is most backward, was lower than
the relatively better off Central region. Further, a low per
capita figure of Rs.25.52 for Bundelkhand suggests that this
region was relatively ignored. Let us now come down to the
sectoral priorities of the public expenditure and examine how
could they conform to situations obtaining in different regions.

The sectoral pattern of the regional divisible expenditure
shows a high priority for development of physical infrastructure,
where the percentage of expenditure on State Irrigation, Road
and Power sectors during the period 1974-77 was 59.70 for all the

Table 23 : Flow of Finances from the Government,
          Commercial Banks and Land Development Banks
          in Different Regions.

Region	Average annual plan exp- enditure (divisible) 1974-77	Institutional Finance		Total 1+2+3	Per Capita Total (Rs.)
		Commercial Banks	LDB		
0	1	2	3	4	5
Western	5641.01 (43.39)	6227.41 (47.90)	1132.75 (8.71)	13001.17 (100.00)	37.56
Central	5620.09 (53.46)	2859.78 (32.29)	376.76 (4.25)	8856.63 (100.00)	49.20
Bundelkhand	1216.17 (87.75)	115.68 (8.35)	54.11 (3.90)	1385.96 (100.00)	29.09
Eastern	9935.80 (69.45)	3643.25 (25.46)	728.29 (5.09)	14307.34 (100.00)	32.27
Hill	3239.00 (72.36)	1194.96 (26.70)	42.28 (0.94)	4476.24 (100.00)	102.76
All Regions	25652.07 (61.04)	14041.08 (33.41)	2334.19 (5.55)	42027.34 (100.00)	42.96

Note: Figures in parentheses are percentages to the Total.

Source:District annual plans 1977-78, records of the
       Directorate of Institutional Finance and of U.P. State
       Cooperative Land Development Bank (LDB).

Table 24 : Plan Expenditure (Divisible) for Regions, 1974-77.

Region/State	Total Expenditure (Lakh Rs.)				Per Capita Annual Average (Rs.)
	1974-75	1975-76	1976-77	Annual Average	
0	1	2	3	4	5
Western	4057.20 (20.53)	4582.15 (20.12)	8283.68 (24.06)	5641.01 (21.99)	16.30 (62.17)
Central	4558.07 (23.07)	4901.29 (51.53)	7400.92 (21.50)	5620.09 (21.91)	32.36 (123.42)
Bundelkhand	798.55 (4.04)	937.26 (4.12)	1912.71 (5.56)	1216.17 (4.74)	25.52 (97.33)
Eastern	7711.80 (39.03)	9551.78 (41.95)	12543.81 (36.43)	9935.80 (38.73)	27.04 (103.13)
Hill	2635.00 (13.33)	2795.00 (12.28)	4287.00 (12.45)	3239.00 (12.63)	76.36 (283.60)
Sub-Total (Divisible)	19760.62	22767.48	34428.12	25652.07	26.22
Percentage of Sub-total to Grand Total	52.81	47.30	58.86	53.43	53.43
Non-Divisible	17657.38	25364.52	24054.88	22358.93	22.85
Grand Total	37418.00	48132.00	58483.00	48011.00	49.07

Note :   Figures in parentheses are percentages to the corresponding sub-total (Divisible)

Source: Draft Annual Plan, 1978-79, Vol.1, Uttar Pradesh, Planning Department, Government of U.P., December 1977.

Table 25 : Divisible Regional Components of the Plan Expenditure by Sectors during 1974-77.

(Lakh Rs.)

Sector	Region					All Regions
	Western	Central	Bundel-khand	Eastern	Hill	
1. Agriculture, Animal Hus-bandry,Fish-eries, SFDA and Soil Conservation	718.64 (4.25)	391.98 (2.32)	224.84 (6.16)	666.60 (2.24)	485.92 (5.00)	2487.98 (3.23)
2. State Irrigation	5405.00 (31.94)	7311.00 (43.36)	1178.00 (32.29)	17078.00 (57.29)	499.64 (5.14)	31471.64 (40.90)
3. Power	3660.00 (21.63)	735.00 (4.36)	239.00 (6.55)	2743.00 (9.20)	688.00 (7.08)	8065.00 (10.48)
4. Village & Small Industries	625.00 (3.69)	137.00 (0.81)	60.00 (1.64)	300.00 (1.01)	274.00 (2.82)	1396.00 (1.81)
5. Road	1336.66 (7.90)	663.74 (3.94)	447.23 (12.26)	1136.74 (3.81)	2821.82 (29.04)	6406.19 (8.32)
6. General Education	886.79 (5.24)	457.74 (2.72)	200.92 (5.51)	866.29 (2.91)	932.43 (9.59)	3344.17 (4.35)
7. Medical, Health and Water Supply	760.00 (4.49)	893.93 (5.30)	476.93 (13.07)	1085.75 (3.64)	1570.77 (16.77)	4787.38 (6.22)
8. Others	3530.94 (20.86)	6269.89 (37.19)	821.60 (22.52)	5931.01 (19.90)	2444.42 (25.16)	18997.86 (24.69)
9. Total Agri-cultural and Irriga-tion(1+2)	6123.64 (36.19)	7702.98 (45.69)	1402.84 (38.45)	17744.60 (59.53)	985.56 (10.14)	33959.62 (44.13)
10.Total Irri-gation, Power and Road (2+3+5)	10401.66 (61.46)	8709.74 (51.66)	1864.23 (51.10)	20957.74 (70.31)	4009.46 (41.26)	45942.83 (59.70)
Grand Total (1to9)	16923.03 (100.00)	16860.20 (100.00)	3648.52 (100.00)	29807.39 (100.00)	9717.00 (100.00)	76956.22 (100.00)

Note : Figures in parentheses are percentages to the Grand Total. Expenditure against 'others' at Sl.No.8 was obtained as residual. The figure for 'Road' in Hill region was taken from the plan expenditure statement given separately in the plan document. State irrigation for the Hill regions stands for State Minor Irrigation in the table.

Source:Draft Annual Plan 1978-79, Vol.1, Uttar Pradesh, December 1977.

regions together. This percentage was highest for the most
backward Eastern region (70.31) followed by Western (61.46),
(Table 25)
Central (51.66), Bundelkhand (51.10) and Hill (41.26)/. Among
these sectors development of irrigation received highest
priority in Eastern region, as this region has been frequently
facing droughts and where most of the cultivators are small
and marginal landholders who lack resources to own tubewells
and pumping sets   In the Western region, where
industrialisation has gone much ahead of other regions, a high
priority was needed for power sector, particularly the village
electrification programme, as is also evident from the table.
Construction of roads received the highest priority in the
Hill region, followed by Bundelkhand, where the villages are
sparsely located. Let us now compare the pattern of expendi-
ture and the physical progress of these works in the light of
their significance to economic development in different regions.

So far as irrigation development is concerned, the expen-
diture incurred on it can be more appropriately compared among
regions per unit of land under agriculture. Similar is the
case with agricultural development programmes. The expendi-
ture on State irrigation per hectare of net area sown during
1974-77 was Rs.60.38 per annum (Table 26), while that on other
agricultural programmes, referred to earlier only Rs.4.77. For
development of agriculture main attention was given for creation
of irrigation facilities. It may be noted that in Eastern
region the average annual expenditure on irrigation came to
Rs.102 per hectare while the percentage of net irrigated area
to net area sown increased from 37.90 in 1968-69 to 43.80 in

in 1976-77, i.e. by only about 6 percentage points. Contrary
to this was the case of Western region, where the per hectare
expenditure was the smallest (Rs.33.88) but the percentage
point increase in the proportion of irrigated area during the
period was about 15, being the highest (Table 26). Special
mention may be made of Bundelkhand region where both the per

Table 26 : Plan Expenditure on State Irrigation and
Coverage of Irrigation in Regions of Uttar
Pradesh.

Region	Average Exp.in Rs.per ha.per annum in 1974-77	Net Area Irrigated as percentage of Net Area Sown (%)	
		1968-69	1976-77
Western	29.91	51.20	65.95
Central	80.23	28.00	38.55
Bundelkhand	21.65	20.20	22.50
Eastern	98.46	37.90	43.80
Hill	23.21	16.80	24.23
All regions	60.38	38.00	50.59

Note : Net Area Sown was taken for the year 1976-77.

Source: Draft Annual Plan, Uttar Pradesh, 1978-79, Vol.
1, December 1977, Indicators of Development of
Uttar Pradesh, State Planning Institute,
Government of Uttar Pradesh, 1979, and Season
and Crop Report 1976-77, Board of Revenue.

hectare government expendirure and increase in the proportion
of irrigated area were the lowest. Considerable disparity
existed in the coverage of irrigation among regions both in the
year 1968-69 and 1976-77 and even today. In 1976-77, the
percentage of irrigated land under agriculture was the highest
in Western (65.95) followed by Eastern (43.80), Central (38.55),
Hill (24.23) and Bundelkhand (22.50). Here the figure 24.23

for the Hill region gets inflated because of Nainital and
Dehradun districts having together 48.33 per cent of agricul-
tural land irrigated while in other districts, namely Almora,
Pithoragarh, PauriGarhwal, Chamoli, Tehri Garhwal and Uttar
Kashi together, the figure was only 10.35 per cent. It may be
reckoned that there is hardly any scope for irrigation develop-
ment in hilly areas. Irrigation facilities, particularly
canals are however badly needed in Bundelkhand region, where
coverage of irrigation is lowest. The Central region which has
a percentage of irrigated area smaller than Western and Eastern
region, and is also agriculturally backward, also deserves
greater attention.

As regards electrification of villages not much has been
done so far. In 1977-78, for instance, only a little over 28
per cent of the villages in the State were electrified. As a
public facility, electrification is required to be uniformly
carried out among regions. But, as the resources are limited,
it becomes necessary to ensure productive use of power as far
as possible. Some preference for relatively developed regions
would therefore be desirable. In the Western region, with 21.6
per cent of divisible expenditure on Power Sector (1974-77) the
percentage of electrified villages increased from 17.10 in 1968-
69 to 34.03 in 1973-74 and 38.07 in 1977-78, the highest among
the regions (Table 27). The percentage point increase in 1977-
78 over 1968-69 in the proportion of electrified villages was
about 21 in Western and Central region, and between 14 to 16 in
other regions, which were industrially as backward. The per
capita annual consumption of electricity (KWH) was 82.3 for

Western region, and for the state, in 1977-78. The figure

was highest 91.7 for Eastern, which got inflated because of

very high consumption in Mirzapur (886.8 KWH per capita) having

the aluminium factory HINDALCO. The lowest per capita consump-

tion of electricity was in Bundelkhand. The use of electricity

in agriculture was most intensive in Western region, followed

by Eastern, Central, Hill and Bundelkhand. Generally the

consumption of electricity would be higher in more urbanised and

economically developed areas. Special attention however needs

to be paid for village electrification in the least served

Bundelkhand and Hill regions.

Table 27 : Village Electrification and Consumption
of Electricity in Regions of Uttar Pradesh

Region	Villages Electrified(%)			Annual Consumption of Electricity (KWH)	
	1968-69	1973-74	1977-78	Per Capita 1977-78	Per hectare in Agriculture 1977-78
Western	17.10	34.03	38.07	82.3	135.8
Central	7.20	21.57	27.93	80.0	48.9
Bundelkhand	3.57	11.72	17.59	23.1	13.4
Eastern	10.53	24.44	26.47	91.7	84.1
Hill	1.79	7.95	17.36	78.3	17.4
State	10.37	23.89	28.11	82.30	87.6

Source : Indicators of Development of Uttar Pradesh,
State Planning Institute, Government of Uttar
Pradesh, 1979, and Draft Sixth Five Year Plan
1980-85 (Review) Vol.1, Government of Uttar
Pradesh, Nov.1980.

The importance of road infrastructure in the context of regional or area development lies in connecting the villages. In Hill region, followed by Bundelkhand, where villages are sparsely located, greater mileage of roads per unit of area is therefore needed. In these two region 29 per cent and 12 per cent of the plan expenditure was incurred/during 1974-77. This percentage for other regions lay between 3.8 and 7.9 with the average for all regions at 8.3. The length of pucca roads in the State was 10.3 kms. per 100 square kms. in the year 1968-69 and 19.3 kms. per 100 sq.kms. in 1978-79 (Table 28). To certain extent the inter-regional differences in terms of the density of roads got reduced during the reference period. In the Hill region, although the density of road comes to be the highest, the percentage of inhabited villages at less than 1 km. of pucca roads in 1976 was even less than the State's average of 22.56 per cent. In Bundelkhand, all the individual districts had a lower percentage of the villages connected by roads, as compared with the state's average. Thus there was need for greater emphasis on road construction in the hilly areas and in the Bundelkhand region.

Institutional Finance

This section makes an appraisal of the coverage of banks per unit of population and availment of institutional finance in different regions. In the mid year (1973-74) of the reference period the number of commercial banks in the State per lakh of population was 1.68 and that of LDB only 0.21 (Table 29). The coverage of commercial banks was much greater than that of the LDB. The density of bank units was lowest in the Eastern region. The Hill region had the highest average density of

Tabl e 28 : Density and Construction of Roads in
Regions of Uttar Pradesh

(Kilometers)

Regio n	Pucca Road Length per 100 sq. km. of area		Length of Road Constructed during 1974-77
	1968-69	1978-79	
Western	11.9	18.8	531
Central	9.4	19.5	315
Bundelkhand	7.4	13.7	230
Eastern	11.3	20.3	616
Hill	12.1*	21.1	869
State	10.3*	19.3	2561

* Excluding Uttarakhand, Chamoli, Pithoragarh and Uttar Kashi
  districts

Source : Policy Paper of the Fifth Plan, State Planning
        Commission, Uttar Pradesh, November 1972, Draft
        Annual Plan of Uttar Pradesh 1978-79, Vol.1, Decem-
        ber 1977, and Draft Sixth Five Year Plan 1980-85
        (Review) Vol.1, Uttar Pradesh, 1980.

commercial banks (3.15 per lakh of population), followed by

Western region (1.98). In the Hill region the figures for

Nainital and Dehradun districts were 4.2 and 7.7 commercial

bank units per lakh of population, while those for the district

groups Almora & Pithoragarh, Garhwal & Chamoli and Tehri

Table 29 : Number of Bank Units per lakh of Population
in Regions of Uttar Pradesh (1973-74)

| Region | Number per lakh of population | |
	Commercial Banks	Land Development Bank
Western	1.98	0.24
Central	1.81	0.19
Bundelkhand	1.52	0.35
Eastern	1.20	0.18
Hill	3.15	0.22
State	1.68	0.21

Source :   Based on data available in Ranking of Districts
by Indicators of Development, State Planning
Institute, Uttar Pradesh, 19   and records of the
Land Development Bank Headquarters.

Garhwal and Uttar Kashi were only 1.9, 1.4 and 2.1 respectively.

Similar is the case with Eastern region where the average

density of the banks got a little inflated on account of relat-

ively greater concentration of banks per unit of population in

Varanasi, Allahabad and Mirzapur. Major parts of the Hill and

Eastern regions were little served with banking facility.

The amount of loan distributed by the commercial banks

during 1975-76 was of the order of Rs.140.41 crores of which

Rs.94.85 crores (67.55 per cent) was for the priority/weaker

sectors. This percentage varied from 57.75 in the Eastern region to 97.45 in Central region. The priority/weaker sectors implied here are agriculture, small industry (craftsmen, qualified entrepreneurs and small scale industries), transport, retail trade and small business, professionals and self employeds and industrial estates. The development of these sectors is deemed necessary on a priority basis with a view to making dent on smaller economies, as of districts. The per capita loaning to the priority/weaker sector was highest (Rs. 16.68) in the Hill region, a little lower (Rs.16.05) in Central, followed by Western (Rs.10.89), and quite low in Eastern (Rs. 5.73) and Bundelkhand (Rs.2.10) in 1975-76. What appears from the above is that the absorption capacity of the Eastern and Bundelkhand economies, both of which are industrially backward, comes out to be very low. Interesting howevers the case of the Hill region where in spite of industrial backwardness, per capita loaning was the highest (Table 30).

So far as the loaning for industrial sectors concerned, no such data was available for regions and districts. As a crude alternative to that, the difference between the 'Balance Outstanding' in Dec.1976 over December 1975 in respect of the individual sectors was taken as indicator for studying the sectoral pattern of advancing within regions, as shown in Table 30. Accordingly in the Western and Central regions, there was greater demand for loans in the industrial sector, unlike the industrially backward Hill, Bundelkhand and Eastern regions. The per capita loan was lowest in Bundelkhand followed by Eastern region. But in the Hill region it was the highest, and

Table 30 : Commercial Bank Loaning in Sectors and
Regions of Uttar Pradesh (1975-76)

Priority/Weaker Sector	Regionwise percentages to total of the reported sectors					All Regions
	Western	Central	Bundel-khand	Eastern	Hill	
1.Agriculture	33.96	25.95	54.17	47.98	57.04	40.66
2.Small Industry	38.14	47.23	21.85	32.56	17.01	36.28
3.Transport	6.44	7.31	6.44	6.64	8.64	6.83
4.Retail Trade & Small Business	7.63	16.49	11.57	9.07	7.16	9.53
5.Professionals and Self-emplo-yeds	8.83	3.02	5.97	3.75	10.15	6.70
Total*(1 to 5)	100.00	100.00	100.00	100.00	100.00	100.00
Per Capita advance to Priority/ Weaker Sectors in 1975-76(Rs.)	10.89	16.05	2.10	5.73	16.68	9.69
Advances to Priority/ Weaker Sectors.as Percentage to total Advances in 1975-76	60.51	97.45	86.30	57.75	60.79	67.55
Per Capita Total Advances 1975-76 (Rs.)	17.99	16.47	2.43	9.91	27.43	14.35

*Based on district-wise difference in balance outstanding
in Dec.1976 over Dec.1975.

major part of the demand for commercial bank loans came from
agricultural sector (57.04 per cent) followed by small indus-
tries (17.01 per cent), which is an interesting case and needs
to be studied separately. The demand for loans was, however,
generally higher in industrially 'developed' areas.

The amount of loan distributed by the LDB per hectare of
agricultural land under agriculture   in the year 1975-76
was highest in Western region (Rs.18.80) followed by Eastern
(Rs.12.60), Central (Rs.12.40), Hill (Rs.5.89) and Bundelkhand
(Rs.2.98), with the State's average at Rs.13.43, on the basis
of the records of the Land Development Bank.   Short term
                                    the figure
credit per capita of rural population,/available for 1974-75,
was the highest (Rs.14.97) in Hill region, followed by
Western (Rs.13.97), Eastern (Rs.12.05), Bundelkhand (Rs.8.27)
and Central (Rs.5.97) as shown in Table 31. It hardly needs
to be mentioned that the figures for the Hill region get
inflated due to the demands in the highly developed Nainital
and Dehradun districts. Yet there appears to be the need for
studying the pattern of resource flows in Hill region in
relation to the economic activities separately. What clearly
emerges from the above is that LDB loaning was poor in Bundel-
khand because of the lack of scope for use of pumping sets
and tubewells. Short term loaning in rural areas was also low
in Bundelkhand due to the conditions inhibiting technological
advancement particularly in agriculture. In Central region
the amount of short term loan per capita in rural areas was
the lowest, which may be associated inter-alia with low pace
of agricultural development.

Table 31 : Loan Distributed by Land Development Bank
Per hectare of Net Area Sown and Short Term
Loans Distributed per capita(Rural) in
Regions of Uttar Pradesh.

Region	LDB loan/ha 1975-76	Short Term Loan Per Capita (Rural) 1974-75 (Rs.)
Western	18.80	13.97
Central	12.40	5.97
Bundelkhand	2.98	8.27
Eastern	12.60	12.05
Hill	5.89	14.87

Note : The regional figures of per capita short term
loans were obtained as the population weighted
average across the districts.

Source: Based on records of LDB and Ranking of Districts
by Indicators of Development, State Planning
Institute.

Public Policy and Economic Development of Backward Regions

During the reference period, the inter-district differen-
ces in per capita income within the State have generally
increased as is evident from Table 32, in spite of the emphasis
on development of backward areas. It would be interesting to
examine whether and how, if at all, could the policies help in
growth of regional and district economies in general and in
making a dent on relatively backward economies in particular.
It hardly needs to be stated that creation and development of
infrastructural facilities and their distribution in different
parts of the State is the task, which comes directly under the
purview of the government, besides spending on various other
development programmes. The role of the government also lies

Table 32 : Co-efficients of Variation in District Per Capita Incomes Within Regions And State.

Set/Year	Western	Central	Bundel-khand	Eastern	Hill	State
Set-I (PCIs At Constant Prices of 1970-71)						
1968-69	18.56	23.48	7.23	16.39	32.47	29.54
69-70	16.11	24.47	6.81	17.93	33.11	30.04
70-71	14.77	25.26	7.00	19.98	36.97	31.25
71-72	24.69	27.87	6.18	21.23	25.67	32.82
72-73	20.44	30.45	5.37	18.64	23.85	33.88
73-74	20.85	29.89	5.10	28.68	26.63	34.84
74-75	26.17	31.90	9.54	23.26	20.75	36.70
75-76	23.74	29.81	4.14	22.78	27.10	35.33
Set-II (PCIs At Current Prices)						
1968-69	18.93	24.07	6.52	15.48	33.34	29.67
69-70	16.30	24.32	6.26	17.58	34.49	30.26
70-71	14.77	25.26	7.00	19.98	36.97	31.25
71-72	22.67	26.14	4.82	17.19	31.33	29.40
72-73	20.74	25.13	5.83	18.08	29.30	31.00
73-74	18.65	22.91	4.57	19.09	27.90	30.00
74-75	20.75	27.61	8.71	18.17	21.45	31.62
75-76	23.38	32.90	9.26	24.13	29.58	34.80
76-77	20.72	32.96	8.65	25.14	33.90	34.09

Coefficient of Variation = $(6x/x) \times 100$

Number of Observations: Western=18, Central=9, Bundelkhand=4, Eastern=15, Hill=5.

in trying to make available institutional finance for

investments in priority sectors and to the preference groups

for enthusing economic development at the local level. The

present section tries to bring out how essentially the policy

indicators are associated with the pace of growth, particularly

with the growth rates of agricultural and industrial(manufactu-

ring) sectors, and whether could the public policies help the

backward district/regional economies grow at a faster rate.

The physical infrastructural facilities considered here are

irrigation, road and power supply. The significance of irriga-

tion development in increasing   agricultural productivity is

well known, as also referred to earlier in the context of agri-

cultural development. Providing road connections to villages

is very important for facilitating planning and execution of

other development projects and programmes. Notably, road density

per unit of geographical area and percentage of villages connected

by roads were found to be highly correlated with the percentage

of electrified villages and number of commercial bank units per

unit of population (Table 33). There was also a positive

association of the stock of roads and village road links with the

levels of investments in general and in agricultural sector in

particular. Agricultural productivity was also comparatively

higher in districts with relatively higher proportion of villages

connected by roads. Greater availability of electricity as well

as institutional finance appear to have made a significant impact

on agricultural productivity. As regards the growth of

Table 33 : Road Density in Association with Selected
Indicators of Development

Selector Indicators	Indicators of road Density	
	Length per unit of area, 1975	Village below 1 km. from pucca road(%)
1. Percentage of Electrified Villages, 1976.	0.49^{**}	0.65^{**}
2. Number of banking units per unit of population, 1973	0.57^{**}	0.28^{*}
3. Plan expenditure on Agriculture		
3.1 per hectare of net area sown	0.45^{**}	0.14
3.2 per agricultural worker	0.41^{**}	0.17
4. Total Plan Expenditure per capita, 1974-77	0.09	0.00
5. Short term loan distributed per capita (Rural), 1974-75	0.35^{*}	0.37^{**}
6. Commercial bank loans 1975-76		
6.1 per capita to Priority/Weaker Sector	0.37^{**}	0.20
6.2 Per capita total	0.35^{*}	0.32^{*}
7. Percentage of HYV (1972-75)		
7.1 wheat area	0.47^{**}	0.42^{**}
7.2 paddy area	0.25	0.32^{*}
7.3 gross cropped area	0.38^{**}	0.44^{**}
8. Percentage of area under Oilseed, Sugarcane & Potato	0.10	0.42^{**}
9. Mechanisation of agricultural (Index)	0.28	0.61^{**}
10. Per hectare agricultural productivity 1975-76	0.30^{*}	0.37^{**}

Total number of observations (districts) = 51

* Significant at 5% level,   ** Significant at 1% level

Significance is based on 't' value.

manufacturing sector, the availability of finance was found
to have contributed to it very significantly. The correlation
coefficient between the growth rate of manufacturing sector and
number of bank units to population ratio works out to 0.28
(significant at 5% level) across all the districts and 0.51
(significant at 1% level) across the districts excluding the
Hill region where the nature of the economy is typically
different than that of the remaining part of Uttar Pradesh.

Coming to the question as to whether a preferential
treatment was given to backward areas in the allocation of
funds and how far could they be effective in reducing inter
area disparities, let ys first locate certain characteristics
of backward district economies and associate with them the
policy indicators considered earlier. By and large, the
cropping pattern and the extent of mechanisation reveal the
level of development of agriculture, which is the core sector.
Notwithstanding the mechanism of growth, it may also be
observed that during the reference period, agricultural prod-
uctivity was generally higher in wheat areas, compared to that
in paddy areas. The coverage of commercial crops and agricul-
tural mechanisation was also greater in wheat areas (Table 34).
The tables 35 and 36 depict correlation coefficients between
the financial indicators of public policy, described earlier,
and the above indicators of agricultural development.

Table 34 : Relationships among Major Characteristics and Performance of Agriculture Across 46 Districts of Uttar Pradesh, excluding Hill Region-(Correlation Coefficients)

Indicators	Indicators as per row Serial Numbers						
	1.1	1.2	1.3	1.4	2	3.1	3.2
1. Percentage of Gross Cropped Area (1972-75) under							
1.1 Paddy	1	-0.60**	0.08	-0.24	-0.26	0.01	-0.23
1.2 Wheat		1	0.37*	0.46**	0.31*	0.32*	0.50**
1.3 High Yielding Varieties			1	0.19	0.36*	0.55**	0.44**
1.4 Oilseeds, Sugarcane and Potato				1	0.60**	0.48**	0.56**
2. Index of Mechanisation(1970-71)					1	0.56**	0.65**
3. Value of Agricultural Output per hectare at 1960-61 prices for							
3.1 Year 1968-69						1	0.81**
3.2 Year 1975-76							1

*Significant at 5% level; **Significant at 1% level.

Table 35 : Financial Resource Inflows in Relation to Cropping Pattern and Mechanisation in Agriculture across all 51 Districts (Correlation Coefficients)

Financial Indicators	Percentage of Gross Cropped Area(1972-75) Under				Index of Mechanisa-tion	Value of Output per hectare	
	Paddy	Wheat	High Yielding Varities	Oilseeds, Sugarcane & Potato		1968-69	1975-76
1. Per-capita total Plan Exp. 1974-77	0.21	-0.18	-0.26	-0.30*	-0.13	-0.41**	-0.01
2. Plan Exp. (Agricultural) 1974-77							
2.1 Per Capita	0.32*	-0.43**	-0.20	-0.43**	-0.25	-0.30	-0.19
2.2 Per ha. of Net area Sown	0.38**	-0.49**	-0.08	-0.37**	-0.20	-0.21	-0.14
2.3 Per agricultural worker	0.25	-0.35*	-0.16	-0.36	-0.23	-0.20	-0.21
3. Short term Loan(1974-75) per capita-Rural	-0.16	0.22	0.27	0.56**	0.54**	0.14	0.46**
4. LDB Loan(1975-76)							
4.1 Per Capita	0.01	0.08	0.45**	0.46**	0.30	0.23	0.06
4.2 Per ha. of Net Area Sown	-0.04	0.27	0.23	0.30*	0.29	0.45**	0.09
5. Commercial Bank Loans (1975-76) Per capita							
5.1 Agriculture	0.13	0.18	0.25	0.32*	0.24	-0.04	0.27
5.2 Priority/Weaker Sectors	0.05	0.15	0.09	0.14	0.03	0.00	0.10
5.3 All Sectors	-0.05	0.22	0.18	0.34*	0.22	-0.04	0.36**

Note : The correlation coefficients

Table 36 : Financial Resource Inflows in Relation to Cropping Pattern and Mechanisation in Agriculture across 46 Districts, excluding Hill Region (Correlation Coefficient)

Financial Indicators	Percentage of Gross Cropped Area (1972-75) Under				Index of Mechanisation	Value of Output per hectare	
	Paddy	Wheat	High Yielding Carieties	Oilseeds, Sugarcane & Potato		1968-69	1975-76
1. Per capita total plan Exp.1974-77	0.20	-0.43**	-0.18	-0.34*	-0.13	-0.26	-0.29*
2. Plan Exp.(Agricultural) 1974-77.							
2.1 Per capita	0.31*	-0.54**	-0.19	-0.45**	-0.25	-0.19	-0.31*
2.2 Per ha.of Net Area Sown	0.39*	-0.57**	-0.05	-0.39**	-0.20	-0.09	-0.26
2.3 Per agricultural Worker	0.21	-0.48**	-0.18	-0.41**	-0.23	-0.23	-0.31*
3. Short term loan(1974-75)per capita-Rural	-0.26	0.40**	0.23	0.60**	0.54**	0.25	0.49**
4. LDB loan(1975-76)							
4.1 Per capita	0.01	0.08	0.45**	0.46**	0.30*	0.23	0.06
4.2 Per ha. of Net Area Sown	-0.13	0.21	0.34*	0.45**	0.29	0.37*	0.32*
5. Commercial Bank loans (1975-76)per capita							
5.1 Agriculture	0.02	0.29	0.37*	0.46**	0.24	0.26	0.25
5.2 Priority/Weaker Sectors	-0.01	0.18	0.03	0.09	0.03	0.12	0.07
5.3 All Sectors	-0.19	0.29	0.24	0.41**	0.22	0.21	0.28

According to table 35 the per capita plan expenditure (1974-77) for all sectors and that on agriculture and allied sectors (including irrigation, animal husbandry, fisheries, Command Area Development etc.) was generally higher in predominantly paddy areas, most of which were relatively backward in terms of the coverage of high yielding varieties and high value crops. The amount expenditure on agriculture and allied sector per hectare of net area sown had highly significant positive correlation coefficient with proportion of gross cropped area under paddy (1972-75) and highly significant negative correlation coefficients with the area proportions of wheat and commercial crops. But so far as short term loans and Land Development Bank loans are concerned, they were in greater demand in districts with wheat as a major crop, greater coverage of high yielding varieties and commercial crops, greater extent of mechanisation and thereby higher levels of agricultural productivity. Commercial bank financing was again greater in districts where agriculture was more commercialised and the productivity levels were generally high. The results depicted in Table 36, which are based on 46 districts observations (excluding the Hill region) are also similar.

The foregoing analysis brings out that in allocation of funds for carrying out various developmental schemes, preference was given to backward areas. A significant proportion of plan expenditure was however incurred on such schemes as general education, medical and health and water supply, which is deemed to have no relationship with economic development

over a short period. There also happens to be some time lag

between the expenditure incurred on infrastructural develop-

ment and actual availability of the facilities, and between

the latter and their effective utilisation. Thus, while

regional or district-wise distribution of public funds generally

favoured the backward areas, it had little significance in the

total amount of investments including institutional finance

for which the demand was greater in relatively developed areas.

As a result, in spite of the emphasis on development of

backward areas, the inter-regional and inter-district dispari-

ties continued to increase.

Theoretically, there is also a conflict between the

approach for State's economic growth and that for reduction in

the inter-regional and inter-district disparities. Generally,

the backward economies are more tradition bound and, on

account of totality of endowmental and socio-economic conditi-

ons prevailing there, the rate of return from investments in

such areas is generally low. It does not necessarily mean

that the efforts of development should be concentrated in

relatively developed areas, because catering to the backward areas

implies betterment of the people in majority. Yet it is felt

that there is need for more systematic planning for regional

district development, so that, given the resource constraints,

it becomes possible to visualise a situation where living

conditions of the people improve faster and inter-regional

disparities are at least kept from widening.

CHAPTER VII

MAIN FINDINGS AND CONCLUSIONS

The main issues following from the broad objectives of the study as stated in Chapter 1, are : District and Regional Income Estimates - nature and quality; Inter-Regional Income Levels and Growth Rates; Regional and Sectoral Effects - the component weights in differences of per capita income across districts; Regional and Sectoral Contributions to Income Levels and Growth Rates; and Factors Associated with Sectoral Growth - an analysis based on inter-district and inter-regional comparisons in terms of various indicators and on correlation coefficients among them. While looking into the factors associated with growth or backwardness of regional economies it was also examined as to whether the policy of the government implied a priority for backward areas and whether could it really bring down the inter-regional differences in per capita income, or keep them from growing. However, as the entire analysis has been carried out at macro-level, the causations could not always be supported by evidences and data, a problem which was inevitable. The main findings and conclusions of the study are as follows.

The District and Regional Income Estimates

For working out a time series of aggregate district/ regional incomes and per capita incomes the estimates of net output computed by the State Statistical Bureau (SSB) were utilised. The SSB estimates pertained only to commodity

producing sectors, namely Agriculture & Allied, Mining &
Quarrying and Manufacturing, and were reported at 1960-61 and
current prices. Total income of a district was estimated at
1970-71 and current prices, with the help of district-wise
and sectorwise price inflators for the commodity sectors on
the one hand, and working out income estimates for Construction
and Tertiary Sectors separately at 1970-71 and current prices.
District-wise population estimates were also worked out on the
basis of the growth rates obtaining between the Census years
1971 and 1981, for computation of per capita incomes. District
incomes were estimated for the years 1968-69 and 1970-71 to
1975-76 at constant prices of 1970-71 and upto the year 1976-77
at current prices. Regional income estimates were obtained as
corresponding aggregates of the district estimates. The
regional income estimates were, however, not adjusted to the
corresponding State level estimates, since it would mean only
some unidirectional and marginal changes in them.

To make a few observations about usefulness and anthent-
icity of these estimates, it may be mentioned at the very outset
that, being based on 'income generated' concept, they are more
appropriate for a synthesis of regional contributions to the
levels and growth rates of the State's economy.
The alternative concept of 'accrued income' does more closely
refer to economic conditions of the people. Lack of data
relating to inter-regional flows has however been the major
factor, compelling the adoption of the former concept for
estimation of regional incomes so far. Given that, an inter-
regional comparison in terms of the reported per capita income

estimates would tend to underscore inter-regional disparities refering to the living conditions of the people.

Second, though per capita income (PCI) is considered to be a powerful indicator for comparing the levels of regional economic development, it is not always compatible with the generally accepted notion of development or backwardness of a region. This is particularly so in a State like Uttar Pradesh exhibiting wide variations in endowmental, demographic and socio-economic characteristics from one region to another. For instance, use of more efficient and productive agricultural technology and industrial growth have been very much restricted in Hill and Bundelkhand regions on account of endowmental conditions. But the PCI level of Hill region was the highest, as supported by earlier estimates also, and of Bundelkhand higher than the Central region. Of course the density of population in the two regions is relatively low. Another factor that adds to the PCI value of these regions is the relatively high proportions of administrative population though it does not necessarily indicate a higher level of development. The correspondence between the regional PCI and their notional hierarchies need, therefore, to be examined separately, to make inter-regional comparisons more meaningful.

Third, and last, it needs to be pointed out that the data span for a geographical (or administrative) sub-unit is relatively narrow, compelling the use of somewhat crude methodological (or procedural) options in the estimational exercise. For certain sectors or sub-sectors, therefore, regional/district income estimates were derived from the corresponding

estimates of State Domestic Product, using some reasonable
allocational basis. It does bear on the authenticity of
estimates, and thereby also makes desirable to compare the
present estimates with those worked out earlier. But such
a comparison could not, be well founded in the present context
because of differences in time reference, variety of data
used and price levels in case of the earlier estimates.
Still it may be mentioned that the regional/district income
estimates for commodity sectors which were worked out by the
State Statistical Bureau involved the so far maximum data and
most comprehensive approach. For non-commodity sectors too
the computations were done in disaggregated manner, as far as
possible. To that extent the regional/district income esti-
mates presented in this report are more reliable than those
worked out earlier.

Inter-Regional Income Levels and Growth Rates

Uttar Pradesh comprises five commonly known agro-climatic
regions, namely Western, Central, Bundelkhand, Eastern and
Hill, and the percentages of State's population represented by
these regions are 35, 18, 5, 38 and 4 respectively. The
regional and district income estimates show that the phenomena
of economic growth in the State was not sufficiently widespread
to show up in the State's income growth rate, so that Uttar
Pradesh has remained amongst the bottom few in the country in
terms of per capita income (PCI) level for quite some time now.
In ther years 1968-69 and 1975-76, the PCI levels at 1970-71
prices were highest for Hill region (Rs.603 and Rs.703),
followed by Western (Rs.502 and Rs.674), Bundelkhand (Rs.448

and 496), Central (Rs.430 and 479) and Eastern (Rs.333 and Rs.329). Inter-district differences in PCI were much more marked.

The inter-regional differences in PCI showed an increase in absolute terms, as evident from the above, as well as in relative terms; generally the regions with a higher PCI level registered a higher income growth rate. Taking into account all the annual estimates, the average annual compound growth rates of total income and PCI were highest for Hill region (4.98 and 2.45) except for the PCI growth rate, followed by Western (4.82 and 2.52), Bundelkhand (4.19 and 1.97), Central (3.54 and 1.55) and Eastern (1.76 and -0.96) during the period 1968-76. The relationship between initial PCI level and income growth rate across districts was also positive, but not so strong, possibly because district economies are relatively more open and influenced by external factors. Noteworthy, however, is the fact that even without a perceptible growth in the state's economy, the inter-regional disparities have increased considerably. The situation calls for greater attention to development of backward regions, making it is necessary to identify the factors responsible for differences in performance of the regional economies. In this context it was worthwhile to examine as to what extent did the PCI differences prevail on account of 'regional' factors, which are more or less given for a period of time, and structural (implied as sectoral) factors.

Regional and Sectoral Effects

Our analysis showed that inter-regional differences in
PCI have been mainly due to the so called 'regional' factors.
An exercise of decomposition of district to State differences
in PCI at a point of time revealed that 90 per cent of PCI
differences, on an average, existed on account of differences
in aggregate productivity (total income per worker). The
variation in aggregate productivity, in turn, was explained to
the extent of 95 per cent by 'regional' and 'sectoral' factors.
Further, the contribution of 'regional' effect in it was
twice that of the 'sectoral' effect. Here, the 'regional'
factors are those which bear on conduciveness of a region to
economic growth and are referred to in terms of geographical,
demographic, cultural and socio-economic characteristics that
or more or less given over a period of time. Related with
these, yet deserving congnisance, is another group of factors,
named as 'sectoral' factors, which count on the peoples'
capabilities and choices and availability of worthwhile options
of investments. These factors are reflected by economic
profile and structure, resulting, in turn, from sectoral incomes
and productivity levels. The weights assumed by the components
of regional and sectoral effects in the analysis were clearly
different across regions. Except for Central region, the
regional effect was found to be more important in determining
the economic status of individual regions.

It may be pointed out here that because of very complex
nature of the inter-dependencies and sequential causations on
the one hand and externalities on the other, factor contribu-

tions to inter-regional disparities can not be measured in an absolute sense. However, an attempt was made in this direction for broad understanding of the phenomena of regional economic development and for policy purpose. The results show that, to a large extent, the inter-regional differences in PCI level were due to the differences in the levels of production technologies, which may be attributed to 'regional' factors. A regional economy was backward in terms of PCI also because it lacked activities involving higher order of technologies, as revealed by the component of 'sectoral' effect. A logical explanation to the existing PCI hierarchy would require more specific analysis of sectoral growth and factors associated with them. To make it more useful for bringing objectivity and selectivity in the approach for development of backward regions and the State as a whole, the following issues were examined : what have been the regional contributions to the State's total and sectoral income levels and growth rates? Which were the key sectors leading to economic growth? And, which were the major factors inhibiting development of these sectors in backward regions?

Regional and Sectoral Contributions to Income Levels and Growth Rates :

So far regional contributions to the State's economy are concerned, the Western region came on top with its share in State's total income at 41 per cent in 1968-69 and 43 per cent in 1975-76 and in the States total income growth rate to an extent of over 54 per cent. The corresponding percentages for the most populated Eastern region were about 30, 27 and 14 while

those for Central region (with a population size smaller than
of Western and Eastern regions) were about 18 per cent each.
The significance of Bundelkhand and Hill regions in the State's
economic development has been relatively low and, at the same
time, the scope for development of these regions was very much
limited on account of endowmental conditions. Taking in view
the regional PCI levels, much greater attention was required
for development of Eastern region to achieve faster growth
rate of the State's economy and reducing inter-regional dispa-
rities.

Among sectors, agriculture and manufacturing were found
to be most crucial for total income or PCI growth rate. Given
the economic structure, the growth of agricultural sector was
closely associated to the PCI growth. But in that process,
the non-agricultural sector, particularly manufacturing, grew
relatively faster. The growth of tertiary sector, though
larger in size as compared to manufacturing sector, was found
to be weakly associated with PCI growth. In fact the relative
size of tertiary sector did not come out to be an appropriate
indicator of economic development because on the one hand it
was guided by the proportion of administrative population and,
on the other, the institutional facilities are also provided
by the government in economically backward areas as a matter
of policy for meeting their developmental requirements. These
observations, which are based on an inter-district analysis of
sectoral structure and PCI growth rates, get support also from
inter-regional comparisons and provide a basis for explaining
the inter-regional disparities in terms of the performance of

agriculture and manufacturing sector. In a situation like
this, the inter-regional and inter-district differences in PCI
levels and growth rates are attributable mainly to the factors
associated with growth of agricultural and manufacturing
sector. The growth of agricultural sector is important on
account of its size and of manufacturing sector due to its
relatively high growth rate, in general, resulting possibly from
use of relatively higher levels of technology, accrual of
greater surplus per unit of production and hence higher rate of
capital formation.

Factors Associated with Sectoral growth Rates

For identification of factors responsible for inter-
regional differences in incomes, correlation co-efficients
among various indicators of regional characteristics, infrast-
ructural development and economic progress were worked out
across districts and examined with particular reference to
growth rates of PCI, agricultural sector and manufacturing
sector. The PCI growth rate was found to be negatively asso-
ciated with the proportion of economically active population
and proportion of income from agricultural sector, and positi-
vely associated with agricultural growth rate, relative
contribution to total income from and growth rate of manufac-
turing sector and the proportion of urban population. It
indicates that in relatively backward areas, with low levels of
agricultural technology and productivity, the supply of labour
tends to increase due to pressure on the poor households to
supplement their incomes. Capital formation in such areas

is likely to be small and income levels generally low,
resulting into slow economic growth or stagnation. The growth
of manufacturing sector and urbanisation appeared to get
support from each other, contributing positively to PCI level.
Also there was an evidence of a positive interaction between
agricultural development and small (unregistered) manufacturing
sector. But then, since the phenomena of development was not
sufficiently widespread, the inter-sectoral linkages were
generally weak.

As regards agricultural growth, increase in productivity
per unit of land was its major source during the reference
period. The growth in agricultural productivity was led manly
by shifts in cropping pattern in favour of commercial crops,
followed by increase in crop yield rates. Coverage of irriga-
tion in general, and tubewell irrigation in particular, was
a major factor enabling the switch over from subsistence
agriculture to use of modern imputs, mechanisation and
commercialisation. Increase in cropping intensity, appeared to
have been resorted to mainly by small farmers as the second
and less efficient alternative for increasing agricultural
productivity. Barring exceptions, the areas with larger
landholdings were benefited more from the technological progress
and cropping pattern shifts. The growth of manufacturing was,
on the other hand, possitively associated with the level
agricultural productivity, availability of infrastructure like
road transport and electricity, and most significantly with the
availability of institutional finance. Within manufacturing
the growth of small (unregistered) sector was found to be

positively related with agricultural   growth rate.
But the lead in terms of growth rate was provided by the large
manufacturing sector. The main conclusions emerging from the
above are as follows.

For growth of agriculture, coverage and quality of irri-
gation and size of landholdings were the crucially important
factors. The reasons for uneven distribution of irrigation
facilities need therefore be examined. Except for irrigation,
infrastructural facilities like availability of roads and
electricity to villages were also not of much relevance to
agricultural growth. Availability of institutional finance
did however make a positive impact towards commercialisation.
The difference in regional agricultural profiles and growth
rates owe,   to endowmental conditions to a
great extent. The growth of manufacturing sector, on the
other hand, depended more on economic factors like economic
conditions of the people in general, scale and technology of
production and availability of institutional finance. The
growth of small manufacturing sector was to some extent an
integral part of overall change in the economic situations in a
region, led by agricultural development. But the large scale
industrial sector grew at a faster rate for it has a wider
demand base and uses   relatively higher level
technologies. Lastly, for growth of the economy as a whole,
the infrastructural and institutional facilities were found to
be crucially important as a package and much less individually.
Save for irrigation, road infrastructure was however most

important in facilitating the conduct of development programmes
and projects that are essential for economic development.
It may be mentioned that the proportion of electri-
fied villages,   coverage of commercial banks and inflow
of the institutional finance were greater in districts with
higher density of roads and proportion of villages connected by
roads. This is important because the availability of institu-
tional finance, was found to have contributed to use of better
technology and commercialisation of agriculture and growth of
industrial sector.

Within the above framework and in the background of the
commonly known characteristics of the regions, the factors
associated with economic situation of the backward/problem
regions, namely Hill, Bundelkhand and Eastern, may be brought
out more specifically. In hill areas, while the land holdings
are small, with hardly any scope for irrigation development
and mechanisation,   the agricultural technology remains
age-old. To certain extent, increase in cropping intensity
added independently to production per unit of land, obviously
involving more of labour input. Preparation of land and its
maintenances in the region is arduous and involves still greater
amount of human labour. In other words, agriculture in hill
areas suffers on account of the lowest order of technology being
used there. A change in this situation is, however, difficult
to visualise. Sparsely populated small rural settlements, lack
of physical infrastructure and high cost carrying out construc-
tion and other development projects and programmes have also
been crucial factors responsible for economic backwardness of

the Hill region. For the above reasons, industrial activities
in the region could not gain grounds except for the continued
existence of the households sector catering mainly to the local
demand. It is interesting to note that, inspite of the
economic backwardness outlined above, the PCI of the region was
found to be relatively high. Some explanations to it are as
follows. First, density of population of the region is the
lowest, being about one-fourth of that for the State. Second,
agricultural and industrial production in hill areas seem to
involve much less of financial cost so that the value of not
output gets inflated. Third, unlike other regions, the
proportion of economically active population in hills is
relatively high and is positively associated with income level.
The situation prevails because an increase in production without
technological advancement is possible only with a greater
proportion of workers, which is further so because of outmigra-
tion of male workers and involvement of females in economic
activities.

In Bundelkhand, the physical resource conditions for
agriculture are poor and somewhat similar to those of Hill
region, though not so stringent. Preparation of land for
cultivation in the region is yet arduous, moisture retention
capacity of the soil as well as rainfall are lowest among all
regions, while tubewell irrigation is conspicuous. Agricul-
tural profile of the region is thereby very poor with lowest
yield rates of major crops, namely of wheat and rice as
compared to the other regions, and relatively high proportion
of area under coarse grain crops. Lack of irrigation was a

crucial factor for this continuing state of agriculture, and hence for the economy as a whole being divorced from the endogenous forces of diversification and growth. The industrial profile of the region was thus much below the mark with a very low proportion of income from industrial sector, represented mainly by the household sector and exhibitiig a rate of growth lowest of all regions. These aspects however need to be examined in a wider framework.

Lastly, the economy of the Eastern region suffered mainly due to small and uneconomic landholdings, frequent occurrances of droughts and floods and the tradition of rainfed cropping. About 90 per cent of the cultivators in the region are small and marginal landholds. Maldistribution of land has also been a bottleneck to the development of the rural society. Notably, the proportion of economically active population is relatively high, indicating an excess supply of labour in the rural areas due to pressure on the poor households to supplement their incomes. A situation like this would normally imply low wages, considerable amount of seasonal migration and a low rate of capital formation, which however needs to be examined in greater details separately. The industrial growth in the region seems to be suffering mainly from socio-economic factors, as the growth rate agricultural sector was lowest of all the regions. It is deemed that if there is a perceptible increase in the pace of agricultural development of the regions, it would also lead to economic diversification and faster industrially growth in the region on the one hand and a

perceptible increase in the State's economic growth.

Inter-Regional Development : Policy and Constraints

It is important here   to take note of what has been
the role of the government policy for meeting the objectives
of the State's economic growth and reduction in inter-regional
disparities. For an exploration in this direction the following
two issues were considered : whether the government policy
implied a preferential treatment of backward regions? And, has
there been any positive impact of the ongoing regional
policies on inter-regional disparities? These issues were
examined with the help of analysis of selected indicators of
the pattern of financial inflows and progress of infrastructural
facilities, worked out for different regions and districts.
The financial indicators were based on figures of annual plan
expenditure, financing by commercial banks and U.P. State Co-
operative Land Development Bank and the distribution of short
term loan. The infrastructural and institutional facilities
were depicted by density of roads, percentage of villages
connected by road, proportion of villages electrified and number
of Bank units per lakh of population. Following are the main
conclusions, which emerged from the exercise.

First, there appeared to be lack of a clear-cut policy for
distribution of plan funds among regions and districts, though
the per capita allocation was generally higher for backward
areas. There the Bundelkhand and Eastern regions were relati-

vely ignored, yet on the whole the data provides evidence of
the policy of giving preference to backward areas. Second, as
regards the institutional finance, it was in greater demand in
relatively developed areas, and in that sense opposed to the
regional pattern of allocation of plan funds. As a result the
regional pattern of resource inflows (public expenditure and
institutional finance) was greater in relatively developed
areas inspite of a policy of preference for backward areas.
Third, also following from the above, the inter-regional
disparities showed increase during the reference period. The
situation may be attributed to the poor availability of deve-
lopment finance with the government. Fourth, and last, there
is also a conflict between the approach for the State's
economic growth and that for reduction in inter-regional
disparities. Generally the backward economies are more
tradition bound and on account of the totality of endowmental
and socio-economic conditions prevailing there, the rate of
return on investments is generally low. A greater allocational
priority for backward areas might then be at the cost of the
State's economic growth. The resources at command with the
government were perhaps insufficient for a perspective of a
minimum desirable economic growth rate and a reduction in inter-
regional disparities. Yet there appears to be the need for
more systematic planning for regional/district development.
Mentionable here is the case of Bundelkhand region which has

been most ignored, followed by Eastern region during the
period of study. It may also be noted that if agricultural
sector of the Eastern region alone grows at a rate obtaining
for Uttar Pradesh, during the reference period, it would imply
not only a reducting in inter-regional disparities but also a
growth rate for the State's economy of 5 to 6 per cent, a
long standing objective through plans.

NOTES AND REFERENCES

1. Government of India, Ministry of Finance, Department of Economic Affairs, Final Report of the National Income Committee, New Delhi, 1954, p.1.

2. Beginning with Dadabhai Naoroji's attempt in 1876 for the reference year 1868, Poverty and Un-British Rule in India, London, 1901, several others came in, notable among these being F.J. Atkinson (1902), K.T. Shah and K.J. Khambatta (1924), VKRV Rao (1939) and R.C. Desai (1953). See Nirmal Kumar Chandra, "Long-Term Stagnation in Indian Economy, 1900-75, Economic and Political Weekly, Vol.XVII, Nos.14, 15 & 16, Annual Number 1982. The past attempts are listed in B.W. Chavan and Amita Chavan, National Income in India Concepts and Methods, Sindhu Publications, Bombay, 1970.

3. Madras Year Book 1923 published the State Income for Madras, the first in India. The estimates were worked out by Dr. G. Slater, see B.W. Chavan and Amita Chavan (1970), op.cit. (2).

4. S.G. Tiwari (1951), "Economic Prosperity of the United Provinces - A Study in the Provincial Income and Its Distribution and Working Conditions, 1921-39".

5. The first well founded estimates of State Income were brought out in India by the State Statistical Bureau (Bombay) for the Bombay Province for the year 1948-49, See B.W. Chavan and Amita Chavan (1970), op.cit (2). In Uttar Pradesh, the Directorate of Economics and Statistics, Government of U.P. also took up the task beginning the reference year 1948-49.

6. NCAER (1963), Occasional Papers No.6, "Inter-District and Inter-State Income Differentials - 1955-56".

7. Baljit Singh (1974), "Inter-District Incomes and Economic Profiles of Uttar Pradesh", Lucknow University, Lucknow, (mimeo).

8. A.K. Singh (1981), Patterns of Regional Development, A Comparative Study, Sterling Publishers, New Delhi.

9. State Planning Institute, Economics and Statistics Division, Government of U.P., Lucknow (1978), Bulletin No.166, "District Domestic Output, Uttar Pradesh (Commodity Producing Sectors), 1960-61, 1968-69 and 1970-71 to 1973-74"

10. The percentage share of the non-commodity sector in the total income as revealed by different estimates are : NCAER, reference year 1955-56. tertiary sector 24.70 in district Banda to 64.89 in Lucknow (All districts 40.81); Baljit Singh, 1970-71, 15.96 in district Kheri to 65.76 in Dehradun; and among the 33 eastern and western districts of U.P., A.K.Singh, 1971, 14.7 in Deoria to 42.4 in Allahabad.

11. For instance, by per capita income in 1970-71, the top
    5 districts according to Baljit Singh (1974) were Dehra Dun,
    Naini Tal, Meerut, Muzaffarnagar and Saharanpur in
    descending order, but the ranks of the latter 3 districts,
    covered by A.K. Singh (1981), come to 5, 1 and 4 respecti-
    vely. Similarly, the bottom 5 districts as per Baljit
    Singh's estimates were Ballia, Jaunpur, Azamgarh, Pratapgarh
    and Basti in descending order. All these districts were
    covered by A.K. Singh, but according to his estimates the
    bottom 5 districts arranged in that order were Jaunpur,
    Sultanpur, Ballia, Bahraich and Sultanpur. The district
    income levels are not comparable because of the price
    differences. The examples cited at (10) also exhibit
    considerable amount of inter-estimate variations.

12. NCAER (1963), op. cit (5)

13. Baljit Singh (1974), op.cit (6)

14. A.K. Singh (1981), op.cit (7)

15. State Planning Institute, op. cit (9)

16. State Planning Institute (1978), op cit (9), State Planning
    Institute (1979), "District Domestic Net Output, Uttar
    Pradesh (Commodity Producing Sector), 1974-75 and 1975-76",
    Bulletin No.166 and Records of the State Planning Institute.

17. NCAER (1963), op cit (5)

18. State Planning Institute (Economics and Statistics Division),
    Government of U.P. (1978), "Methodology of Estimating Dis-
    trict Domestic Net Output, Uttar Pradesh (Commodity
    Producing Sectors.)

19. Bakul H. Dholakia and Ravindra H. Dholakia (1978), "Urban-
    Rural Income Differences in India : An Inter-Regional
    Analysis", Indian Journal of Industrial Relations, Vol.14,
    No.2, October 1978.

20. State Planning Institute (Economics and Statistics Division,
    Government of Uttar Pradesh (1977), "Methodology of State
    Income Estimates of Uttar Pradesh (Revised Series)".

21. Government of U.P. (Planning Department), Draft Sixth Five
    Year Plan 1980-85 (Review), Vol.1, November 1981, pp.4-5.

22. M.S. Bhatia and R.C. Sinha : "Alternative Growth Rates to
    Reduce Disparity, Per Capita Income of U.P. and India",
    The Economic Times, Bombay, November 12, 1973.

23. Government of Uttar Pradesh (Planning Department), Fourth
    Five Year Plan, Uttar Pradesh, 1969-73, (Draft), 1969.

24. Government of U.P. (Planning Department), Fifth Five Year Plan 1974-79 (Draft).

25. While the wholesale price index (1957-58 = 100) of food-grains increased marginally from 200.4 in 1968-69 to 201.2 in 1970-71, the general agricultural wholesale price index was 220.9 in 1968-69 and 205.2 in 1970-71, showing a decline. Similarly, the general index of wholesale, prices for industrial commodities in Uttar Pradesh (1948 = 100) was 246 in 1969, 220.2 in 1970 and 222.2 in 1971. See State Planning Institute, Economics and Statistics Division, Government of U.P., Statistical Abstract, Uttar Pradesh, 1973-74, Bulletin No.152, pp.75-76.

26. The average annual compound growth rate (r) defined in percentage terms was computed taking into account all the observation in a time series, using the following expression

$$r = \left[\text{Anti log} \left\{ \left(\sum_t \log X_t - N \log X_0 \right) / N \ (N-1)/2 \right\} - 1 \right] \cdot 100$$

where X_t is the observation for year t, t = 0, 1, .. N-1, and N the total number of observations.

The growth rate of income is based on the estimates at constant prices of 1970-71, over the period from 1968-69 to 1975-76. As the income estimates for commodity producing sectors were not available for the year 1969-70, this observation gap was filled in for the purpose of computing growth rates by taking arithmatic average of the estimates for the years 1968-69 and 1970-71.

27. State Income Estimates, Uttar Pradesh, 1960-61 to 1974-75, Bulletin No.157, State Planning Institute, Government of Uttar Pradesh (Undated), p.37.

28. Baljit Singh, op cit (7)

29. Based on State Income Estimates, op cit (31), p.46.

30. R.S. Mathur : Economic Development and the Tertiary Sector, Indian Journal of Industrial Relations, Vol.8, No.1, July 1972.

31. Agricultural Statistics of U.P. and Other States, Perspective Planning Division, State Planning Institute, Government of Uttar Pradesh, 1978 (mimeo).

32. Government of U.P., op cit (21), pp.166-171.

33. The gross value of output of agriculture was estimated at Rs.2394.17 crores in 1968-69, Rs.2664.30 crores in 1972-73, Rs.2856.70 crores in 1975-76 and Rs.2879.22 crores in 1976-77. Source : State Income Estimates, Bulletin No.186, Economics and Statistics Division, State Planning Institute, Government of Uttar Pradesh, February 1982.

34. V.N. Misra : Anatomy of Agricultural Growth in T.S. Papola
    et. al., Studies on Development of Uttar Pradesh, Giri
    Institute of Development Studies, Lucknow 1979. It may be
    mentioned here that the component of 'area' in V.N. Misra's
    decomposition model refers to total cropped area. Change in
    total cropped area while net area sown remaining the same,
    reflects similar change in cropping intensity in proporti-
    onal terms.

35. Inter-district comparisons suggest that increases in agri-
    cultural productivity beyond acertain level, lead to a
    diversification of rural economy in favour of non-agricul-
    tural activities. This finding is based on an analysis of
    secondary data across districts of Uttar Pradesh for the
    year 1970-71. See R.C. Sinha, Agricultural Development and
    Rural Employment, in T.S. Papola and others, Studies on
    Development of Uttar Pradesh, Giri Institute of Development
    Studies, Lucknow, 1979.

36. R.C. Sinha : An Analysis of Direct and Indirect Effects of
    Income Generation Through Different Sectors of the Economy
    of U.P., in Training of Personnel for Development Adminis-
    tration - Issues in State Planning, Collection of Papers,
    Centre for the Study of Regional Development, Jawaharlal
    Nehru University, New Delhi, 1977 (mimeo). The study
    examines income multipliers of different sectors of the
    economy of U.P., based on the Input-Output table of the
    State. 'Structure of the Economy of Uttar Pradesh, 1970-71,
    Perspective Planning Division, State Planning Institute,
    Uttar Pradesh Government, Lucknow 1975.

ANNEXURE-1

Regional And District Income Estimates At Constant
Prices Of 1970-71

(Crore Rs.)

District/Region	1968-69	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
0	1	2	3	4	5	6	7
1. Agra	116.73	136.09	137.65	142.63	134.59	138.56	147.56
2. Aligarh	99.97	124.64	119.46	125.72	116.40	116.60	122.82
3. Budaun	49.18	73.99	63.67	70.33	61.14	64.31	65.92
4. Bareilly	90.45	101.26	98.83	103.89	103.46	116.70	114.28
5. Bijnor	80.79	94.65	96.74	96.07	95.70	103.27	103.05
6. Bulandshahr	89.17	112.42	107.99	118.61	105.05	114.38	112.99
7. Etah	56.27	79.07	60.44	66.73	64.92	67.00	72.03
8. Etawah	56.50	68.35	58.33	64.83	62.98	66.32	72.91
9. Farrukhabad	59.14	69.92	62.39	65.66	63.41	60.67	73.93
10. Mainpuri	56.38	61.82	54.10	63.59	57.09	65.55	64.12
11. Mathura	68.92	82.22	79.44	79.92	76.88	76.15	79.84
12. Meerut	198.53	247.32	245.86	264.15	255.77	270.21	283.41
13. Moradabad	100.21	131.35	120.17	133.20	132.23	135.22	141.40
14. Muzaffarnagar	93.88	114.69	119.32	123.59	108.25	126.16	132.02
15. Pilibhit	44.29	46.01	42.21	49.04	46.87	55.56	58.50
16. Rampur	45.64	50.49	41.39	48.41	50.19	52.88	52.23
17. Saharanpur	127.57	141.57	152.83	170.66	168.90	92.51	214.99
18. Shahjahanpur	63.73	66.95	61.87	60.20	63.49	68.83	73.71
WESTERN REGION	1497.34	1802.80	1722.70	1847.21	1767.33	1891.87	1985.71
19. Barabanki	57.27	60.00	57.25	56.71	56.66	60.10	68.34
20. Fatehpur	43.02	49.95	46.28	48.34	48.66	59.14	55.53
21. Hardoi	63.88	77.42	63.39	73.24	68.02	70.76	73.64
22. Kanpur	169.74	205.90	195.37	218.41	215.07	236.33	241.05
23. Kheri	67.54	74.03	63.86	71.92	72.91	74.30	76.02
24. Lucknow	91.81	108.59	107.62	112.12	111.04	111.13	121.51
25. Rae Bareli	56.91	59.60	57.14	60.23	57.50	55.30	59.97
26. Sitapur	65.20	71.56	68.51	70.94	71.55	73.87	75.13
27. Unnao	46.87	61.25	56.56	49.82	56.21	52.83	61.28
CENTRAL REGION	662.25	678.29	715.98	761.74	754.67	783.75	832.46
28. Banda	45.87	57.45	53.64	63.34	56.26	49.60	63.45
29. Hamirpur	42.96	48.31	48.39	58.25	50.37	46.87	50.79
30. Jalaun	32.65	35.89	35.36	41.53	40.79	43.66	45.37
31. Jhansi & Lalitpur	61.45	70.38	66.43	73.36	72.13	66.05	76.75
BUNDELKHAND REGION	182.93	212.05	203.82	236.47	219.55	206.18	236.37

Annexure-1 (Contd.)

0	1	2	3	4	5	6	7
32. Allahabad	105.45	133.80	131.75	116.97	169.57	132.75	157.17
33. Azamgarh	65.07	78.11	75.06	71.67	72.06	76.86	81.35
34. Bahraich	65.94	63.95	54.83	61.86	57.58	57.64	66.01
35. Ballia	48.60	45.54	40.96	45.93	41.73	39.89	47.07
36. Basti	98.02	95.91	90.22	94.71	80.91	84.55	93.91
37. Deoria	82.27	88.16	75.95	78.63	66.95	84.90	95.70
38. Faizabad	56.84	66.42	61.89	55.43	52.28	52.71	61.53
39. Ghazipur	41.77	48.08	48.85	46.60	45.45	41.32	51.43
40. Gonda	81.35	81.00	71.84	81.10	81.86	76.81	81.37
41. Gorakhpur	104.92	116.21	113.22	108.11	105.77	110.74	126.04
42. Jaunpur	53.96	60.38	51.94	61.00	54.05	52.70	63.55
43. Mirzapur	64.32	80.38	66.76	69.04	70.33	73.49	84.15
44. Pratapgarh	37.27	42.76	37.72	35.44	35.93	34.84	40.36
45. Sultanpur	53.98	58.32	58.99	53.05	54.31	51.42	54.80
46. Varanasi	112.48	136.73	138.26	132.93	142.01	137.72	150.69
EASTERN REGION	1072.24	1195.76	1118.24	1112.46	1130.61	1108.33	1255.12
47. Almora & Pithoragarh	38.41	56.45	48.99	54.91	55.87	58.37	60.01
48. Dehradun	43.17	44.73	50.00	52.49	51.73	55.62	60.07
49. Garhwal & Chamoli	53.87	39.02	45.70	51.72	51.09	57.69	54.43
50. Nainital	62.48	89.54	67.66	77.45	83.05	65.02	92.07
51. Tehri & Uttarkashi	20.70	27.97	30.50	35.77	32.94	33.27	39.60
HILL REGION	218.63	257.71	242.85	272.33	274.69	269.98	306.18
UTTAR PRADESH	3633.39	4236.62	4003.60	4230.20	4146.86	4260.11	4615.85

ANNEXURE-2

Regional And District Income Estimates
At Current Prices

(Crore Rs.)

District/Region	1968-69	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
0	1	2	3	4	5	6	7	8
1. Agra	113.01	136.09	141.35	171.58	188.61	224.38	231.71	275.63
2. Aligarh	97.35	124.64	121.84	160.98	172.61	198.37	191.78	214.78
3. Budaun	62.78	73.99	75.86	94.13	104.50	116.98	109.05	129.24
4. Bareilly	87.21	101.26	107.23	125.83	146.19	187.00	175.31	200.07
5. Bijnor	84.89	94.65	99.16	127.25	142.58	174.29	163.07	169.67
6. Bulandshahr	88.99	112.42	117.91	147.53	150.00	182.12	172.48	181.24
7. Etah	59.82	79.07	71.44	946.96	107.88	129.78	119.93	125.66
8. Etawah	55.65	68.35	67.58	820.46	97.66	114.97	102.78	108.40
9. Farrukhabad	55.79	69.92	69.35	83.50	99.01	106.87	122.47	125.87
10.Mainpuri	58.28	61.82	55.62	82.57	87.72	112.88	102.59	120.80
11.Mathura	61.58	83.33	74.22	99.48	107.97	120.71	115.98	131.26
12.Meerut	211.76	247.32	267.78	343.39	368.53	446.09	457.86	503.64
13.Moradabad	111.08	131.35	136.97	168.38	189.09	228.33	229.90	257.40
14.Muzaffarnagar	111.79	114.69	132.75	170.12	181.10	212.85	204.77	232.76
15.Pilibhit	44.18	46.01	49.05	65.83	72.38	85.97	88.09	96.87
16.Rampur	44.68	50.49	44.50	61.35	76.96	87.15	82.22	95.26
17.Saharanpur	134.24	141.57	157.77	218.43	241.68	313.65	335.03	327.13
18.Shahjahanpur	58.90	66.95	72.65	75.90	93.26	111.33	113.90	126.17
WESTERN REGION	1542.00	1802.80	1863.03	2373.58	2627.75	3153.72	3118.92	3421.86
19.Barabanki	56.65	60.00	66.73	80.61	97.89	115.70	112.23	122.10
20.Fatehpur	39.89	49.95	46.85	63.42	74.61	81.15	77.64	94.90
21.Hardoi	64.61	77.42	69.37	101.00	109.14	123.72	120.43	131.98
22.Kanpur	167.00	205.90	205.23	371.25	312.46	399.72	401.34	436.79
23.Kheri	75.53	74.03	78.95	105.30	127.04	133.28	122.73	134.48
24.Lucknow	90.91	108.59	119.16	136.21	156.53	185.46	208.15	233.71
25.Rae Bareli	50.25	59.60	62.15	76.71	86.58	100.71	90.54	107.92
26.Sitapur	70.42	71.56	83.60	98.70	137.01	141.62	129.67	139.11
27.Unnao	50.63	61.25	65.48	71.95	96.54	104.04	102.16	97.92
CENTRAL REGION	665.86	768.29	797.51	1005.15	1197.79	1385.41	1364.87	1498.92
28.Banda	45.32	57.45	53.39	81.78	85.20	79.92	89.77	99.47
29.Hamirpur	40.48	48.34	46.80	74.94	73.39	68.36	66.97	84.81
30.Jalaun	33.37	35.89	36.38	53.98	63.58	64.92	63.90	75.50
31.Jhansi & Lalitpur	60.41	70.40	66.07	87.06	106.45	108.70	118.41	139.39
BUNDELKHAND REGION	179.58	212.05	202.64	297.76	328.61	32.89	339.03	399.17

Annexure-2 (Contd.)

0	1	2	3	4	5	6	7	8
32. Allahabad	104.73	133.80	148.26	184.63	209.52	238.18	262.80	295.98
33. Azamgarh	65.81	78.11	88.20	101.14	117.12	153.17	143.14	152.24
34. Bahraich	58.38	63.95	63.88	73.19	85.14	94.95	92.37	101.17
35. Ballia	49.09	45.54	53.25	60.18	70.57	77.05	75.08	88.00
36. Basti	93.25	95.91	96.10	122.73	126.10	159.42	140.34	151.00
37. Deoria	88.44	88.16	95.84	117.90	120.09	158.79	156.00	157.04
38. Faizabad	62.72	66.42	87.47	78.97	95.51	118.10	122.13	114.15
39. Ghazipur	43.37	48.08	61.44	63.31	76.08	79.62	84.12	96.80
40. Gonda	81.19	81.00	84.94	107.84	130.14	138.38	121.54	130.66
41. Gorakhpur	105.97	116.21	126.77	145.27	165.37	211.97	213.33	206.83
42. Jaunpur	54.56	60.38	58.93	81.67	98.14	110.04	107.69	117.14
43. Mirzapur	67.76	80.38	70.27	94.25	112.92	130.35	139.00	155.14
44. Pratapgarh	43.89	42.76	56.96	54.29	71.01	76.49	72.45	79.60
45. Sultanpur	48.79	58.32	79.01	70.85	86.46	97.02	78.41	89.38
46. Varanasi	114.02	136.73	145.13	166.97	206.19	238.23	251.14	280.05
EASTERN REGION	1081.98	1195.76	1317.10	1523.18	1770.35	2081.77	2059.42	2215.19
47. Almora & Pithoragarh	38.00	56.45	49.05	66.59	54.08	100.09	93.43	101.23
48. Dehradun	40.73	44.73	54.13	59.93	69.35	88.57	99.10	109.69
49. Garhwal & Chamoli	47.61	39.02	40.05	52.27	67.04	95.13	75.17	83.79
50. Nainital	67.63	89.54	73.22	101.43	126.03	131.72	135.97	147.84
51. Tehri & Uttarkashi	22.79	27.97	31.56	41.14	50.06	58.54	58.70	48.21
HILL REGION	216.75	257.21	248.01	321.35	396.56	474.06	462.38	490.75
UTTAR PRADESH	3686.17	4236.62	4428.29	5521.04	6321.07	7416.84	7344.64	8025.89

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ANNEXURE-3

Estimated Population of Districts and Regions
for the years 1968-69, 1972-73, 1975-76
and 1976-77

(Number in thousand)

District/Region	1968-69	1972-73	1975-76	1976-77
0	1	2	3	4
1. Agra	2190	2385	2539	2593
2. Aligarh	2021	2176	2301	2345
3. Budaun	1584	1691	1780	1811
4. Bareilly	1700	1846	1981	2028
5. Bijnor	1410	1548	1668	1710
6. Bulandshahr	1984	2113	2189	2216
7. Etah	1499	1608	1682	1708
8. Etawah	1377	1490	1573	1603
9. Farrukhabad	1487	1611	1721	1759
10. Mainpuri	1375	1484	1561	1589
11. Mathura	1232	1326	1400	1425
12. Meerut	3192	3488	3771	3872
13. Moradabad	2308	2527	2832	2906
14. Muzaffarnagar	1706	1868	2002	2051
15. Pilibhit	716	786	858	883
16. Rampur	847	938	1014	1042
17. Saharanpur	1936	2137	2308	2368
18. Shahjahanpur	1246	1335	1436	1471
WESTERN REGION	29810	32357	34616	35380
19. Barabanki	1578	1688	1793	1830
20. Fatehpur	1224	1317	1398	1426
21. Hardoi	1777	1909	2027	2070
22. Kanpur	2831	3105	3324	3402
23. Kheri	1426	1551	1683	1729
24. Lucknow	1544	1667	1778	1817
25. Rae Bareli	1460	1562	1667	1705
26. Sitapur	1813	1946	2072	2116
27. Unnao	1416	1531	1625	1659
CENTRAL REGION	15069	16276	17367	17754
28. Banda	1121	1229	1328	1362
29. Hamirpur	936	1017	1074	1094
30. Jalaun	773	837	886	902
31. Jhansi & Lalitpur	1250	1364	1477	1518
BUNDELKHAND REGION	4080	4447	4785	4876

Annexure-3 (Contd.)

0	1	2	3	4
32. Allahabad	2805	3056	3299	3386
33. Azamgarh	2740	2951	3142	3209
34. Bahraich	1668	1794	1932	1980
35. Ballia	1522	1636	1730	1763
36. Basti	2892	3068	3232	3290
37. Deoria	2697	2918	3144	3223
38. Faizabad	1850	1988	2110	2154
39. Ghazipur	1477	1587	1701	1742
40. Gonda	2243	2383	2549	2607
41. Gorakhpur	2914	3142	3352	3427
42. Jaunpur	1933	2076	2222	2273
43. Mirzapur	1463	1608	1746	1795
44. Pratapgarh	1378	1475	1582	1620
45. Sultanpur	1583	1697	1808	1846
46. Varanasi	2722	2965	3198	3279
EASTERN REGION	31887	34344	36747	37594
47. Almora & Pithoragarh	1019	1119	1271	1326
48. Dehradun	536	601	652	670
49. Garhwal & Chamoli	817	866	906	920
50. Nainital	730	833	925	959
51. Tehri & Uttarkashi	525	564	602	616
HILL REGION	3627	3983	4356	4491
UTTAR PRADESH	84473	91407	97851	100095

ANNEXURE-4

Regional And District Per Capita Income Estimates
At Constant Prices Of 1970-71

(Rs.)

District/Region	1968-69	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
0	1	2	3	4	5	6	7
1. Agra	533	596	590	598	553	558	581
2. Aligarh	495	596	516	578	526	516	534
3. Budaun	310	453	239	416	356	368	370
4. Bareilly	532	574	548	563	548	603	577
5. Bijnor	573	642	641	621	603	635	618
6. Bulandshahr	449	547	517	561	492	529	516
7. Etah	375	508	382	415	398	404	428
8. Etawah	410	477	399	435	415	406	463
9. Farrukhabad	398	453	396	407	385	361	430
10. Mainpuri	410	432	371	428	379	427	411
11. Mathura	559	643	610	603	570	554	570
12. Meerut	622	742	724	757	715	736	752
13. Moradabad	434	546	488	527	492	490	499
14. Muzaffarnagar	550	643	654	662	566	645	659
15. Pilibhit	619	618	553	624	579	667	682
16. Rampur	539	567	453	516	522	536	515
17. Saharanpur	659	697	734	799	771	856	932
18. Shahjahanpur	511	523	475	451	464	491	513
WESTERN REGION	502	581	525	571	533	559	574
19. Barabanki	363	369	346	336	329	342	381
20. Fatehpur	351	394	358	367	363	359	397
21. Hardoi	359	422	339	384	350	356	363
22. Kanpur	600	695	644	703	678	728	725
23. Kheri	474	502	423	464	458	454	452
24. Lucknow	595	677	659	·673	652	639	683
25. Rae Bareli	390	397	374	386	360	339	360
26. Sitapur	360	383	359	365	360	364	363
27. Unnao	331	417	377	325	341	332	377
CENTRAL REGION	439	492	450	468	454	461	479
28. Banda	409	491	448	515	447	383	478
29. Hamirpur	459	494	490	573	487	445	473
30. Jalaun	422	446	431	496	479	502	512
31. Jhansi & Lalitpur	492	543	501	538	516	459	520
BUNDELKHAND REGION	448	499	470	532	483	443	496

Annexure-4 (Contd.)

0	1	2	3	4	5	6	7
32. Allahabad	376	460	442	383	541	413	476
33. Azamgarh	237	276	260	243	239	250	259
34. Bahraich	395	373	313	345	313	306	342
35. Ballia	319	289	255	281	251	235	272
36. Basti	339	324	299	309	259	266	291
37. Deoria	305	316	267	269	224	277	304
38. Faizabad	307	347	318	279	258	255	292
39. Ghazipur	283	316	315	294	280	249	302
40. Gonda	363	354	308	340	335	308	319
41. Gorakhpur	360	386	368	344	330	338	376
42. Jaunpur	279	303	256	294	255	243	286
43. Mirzapur	440	527	427	429	426	433	482
44. Pratapgarh	270	302	262	240	238	225	255
45. Sultanpur	341	358	355	313	314	291	303
46. Varanasi	413	484	478	448	467	442	471
EASTERN REGION	336	363	333	324	322	309	342
47. Almora & Pithoragarh	377	535	457	491	479	480	472
48. Dehradun	805	786	855	873	838	877	921
49. Garhwal & Chamoli	659	465	535	597	581	646	601
50. Nainital	856	1151	842	930	963	727	995
51. Tehri & Uttarkashi	394	517	553	634	572	565	658
HILL REGION	603	618	628	684	670	639	703
UTTAR PRADESH	430	484	442	463	443	445	472

ANNEXURE-5

Regional And District Per Capita Income
Estimates At Current Prices

(Rs.)

District/Region	1968-69	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
0	1	2	3	4	5	6	7	8
1. Agra	516	596	606	719	775	903	913	1063
2. Aligarh	482	596	527	740	779	879	833	916
3. Budaun	396	453	285	560	608	669	613	714
4. Bareilly	513	574	595	682	774	967	885	987
5. Bijnor	602	642	657	822	899	1071	978	992
6. Bulandshahr	449	547	565	698	702	842	788	818
7. Etah	399	508	451	589	661	783	713	736
8. Etawah	404	477	462	551	644	744	653	676
9. Farrukhabad	375	453	440	518	601	635	712	716
10. Mainpuri	424	432	381	556	582	735	657	760
11. Mathura	500	643	570	750	800	879	828	921
12. Meerut	663	742	788	984	1030	1215	1214	1301
13. Moradabad	481	546	547	666	703	827	812	886
14. Muzaffarnagar	655	643	727	911	948	1088	1023	1135
15. Pilibhit	617	618	643	838	895	1032	1027	1097
16. Rampur	528	567	487	654	800	883	811	914
17. Saharanpur	693	697	757	1022	1103	1395	1452	1381
18. Shahjahanpur	473	523	558	569	682	795	793	858
WESTERN REGION	517	581	567	734	793	931	901	967
19. Barabanki	359	369	403	478	569	659	626	667
20. Fatehpur	326	394	363	482	556	592	555	666
21. Hardoi	364	422	371	529	561	623	594	638
22. Kanpur	590	695	677	874	984	1231	1207	1284
23. Kheri	530	502	523	679	797	814	729	778
24. Lucknow	589	677	730	817	920	1066	1171	1286
25. Rae Bareli	344	397	406	491	543	617	543	633
26. Sitapur	388	383	439	507	690	698	626	657
27. Unnao	358	417	436	470	618	653	629	590
CENTRAL REGION	442	492	501	618	721	815	786	844
28. Banda	404	491	446	665	676	618	676	730
29. Hamirpur	433	494	474	737	709	649	624	775
30. Jalaun	432	446	443	645	746	747	721	837
31. Jhansi & Lalitpur	483	543	498	638	761	756	802	918
BUNDELKHAND REGION	440	499	468	670	723	692	712	819

Annexure-5 (Contd.)

0	1	2	3	4	5	6	7	8
32. Allahabad	373	460	498	604	669	741	796	874
33. Azamgarh	240	276	307	343	389	498	456	474
34. Bahraich	350	373	366	408	463	504	478	511
35. Ballia	323	289	332	368	424	454	434	499
36. Basti	322	323	319	400	404	502	434	459
37. Deoria	328	316	337	404	402	518	496	487
38. Faizabad	339	347	449	397	471	571	579	530
39. Ghazipur	294	316	396	399	469	479	495	556
40. Gonda	362	354	365	453	534	556	477	501
41. Gorakhpur	364	386	413	462	515	646	636	604
42. Jaunpur	282	303	290	393	462	507	485	515
43. Mirzapur	463	527	449	586	684	767	796	864
44. Pratapgarh	319	302	395	368	471	495	458	491
45. Sultanpur	308	358	476	418	499	548	434	484
46. Varanasi	419	484	502	563	679	765	785	854
EASTERN REGION	339	363	392	444	504	580	560	589
47. Almora & Pithoragarh	373	535	457	595	721	822	735	763
48. Dehradun	760	786	925	997	1124	1397	1520	1637
49. Garhwal & Chamoli	583	465	469	604	763	1065	830	911
50. Nainital	926	1151	911	1218	1462	1473	1470	1542
51. Tehri & Uttarkashi	434	517	573	729	869	994	975	783
HILL REGION	598	681	641	807	967	1121	1061	1093
UTTAR PRADESH	436	484	489	604	676	775	751	802

ANNEXURE-6

Dependency and Productivity Effects in the Per Capita
Income Differences Between Districts and
State as a Whole(1972-73)

District/Region	Components			
	$\lceil Y_i - Y \rceil$	DE_i	PE_i	IDP_i
0	1	2	3	4
1. Agra*	135.21	-83.60	191.18	27.63
2. Aligarh*	114.91	-76.43	168.22	23.13
3. Budaun	46.99	- 7.91	56.06	- 1.17
4. Bareilly*	99.98	-10.54	107.54	2.99
5. Bijnor*	157.85	-62.17	199.40	20.63
6. Bulandshahr*	98.51	-91.25	162.78	26.98
7. Etah	47.79	34.36	13.11	0.32
8. Etawah	27.79	57.95	- 26.40	- 3.77
9. Farrukhabad	55.29	20.98	31.31	3.00
10. Mainpuri	34.39	49.01	- 14.03	- 0.59
11. Mathura*	139.81	-75.90	193.63	22.08
12. Meerut*	294.41	-91.30	351.27	34.44
13. Moradabad*	64.31	-30.64	92.81	2.14
14. Muzaffarnagar*	198.81	-51.42	235.67	14.56
15. Pilibhit*	161.11	14.25	153.07	- 6.21
16. Rampur*	53.31	- 8.40	139.75	-78.04
17. Saharanpur*	335.71	-30.84	360.47	6.08
18. Shahjahanpur	11.87	-24.48	36.88	- 0.54
WESTERN REGION	115.45	-26.02	136.27	5.20
19. Barabanki	126.89	-34.12	179.41	-18.40
20. Fatehpur	95.79	-28.23	134.56	-10.54
21. Hardoi	79.19	- 2.83	82.78	- 0.76
22. Kanpur*	240.61	-37.29	262.82	15.07
23. Kheri*	0.81	31.89	- 32.23	1.15
24. Lucknow*	209.81	-27.33	226.86	10.28
25. Rae Bareli	77.29	-14.16	95.10	- 3.66
26. Sitapur	98.29	-17.26	114.45	1.10
27. Unnao	137.39	6.97	128.09	2.33
CENTRAL REGION	113.45	-13.60	132.43	- 0.38
28. Banda*	52.51	48.51	3.66	0.34
29. Hamirpur*	109.91	31.13	82.90	- 4.12
30. Jalaun*	33.31	-38.86	66.36	5.81
31. Jhansi & Lalitpur*	75.01	-16.64	88.19	3.46
BUNDELKHAND REGION	67.69	6.04	60.28	1.37

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Annexure-6(Contd.)

0	1	2	3	4
32. Allahabad	80.09	-16.09	101.03	4.85
33. Azamgarh	219.99	19.31	185.97	14.71
34. Bahraich	117.99	-40.72	180.51	-21.80
35. Ballia	182.09	30.76	136.73	14.60
36. Basti	154.09	-37.33	217.99	-26.57
37. Deoria	193.39	6.78	182.23	4.38
38. Faizabad	183.99	- 7.87	197.86	- 6.00
39. Ghazipur	169.19	13.38	149.19	6.61
40. Gonda	122.49	-52.59	70.13	104.95
41. Gorakhpur	118.79	- 8.68	290.55	-163.08
42. Jaunpur	168.99	50.62	69.29	49.08
43. Mirzapur	33.49	-25.58	303.56	-244.48
44. Pratapgarh	222.59	6.74	95.08	120.77
45. Sultanpur	150.19	- 8.26	-314.59	473.03
46. Varanasi	14.49	29.78	- 13.81	- 1.49
EASTERN REGION	142.12	- 2.64	123.44	21.32
47. Almora & Pithoragarh*	27.91	103.59	- 96.55	20.88
48. Dehradun*	410.51	97.31	350.32	-37.11
49. Garhwal & Chamoli*	134.31	225.74	-147.73	56.30
50. Nainital*	466.91	71.71	426.90	-31.71
51. Tehri & Uttarkashi*	171.31	275.53	-185.31	81.10
HILL REGION	242.19	154.76	69.53	17.90
UTTAR PRADESH				
a) Districts with PCI above the State's Average	157.79	6.96	141.76	9.07
b) Districts with PCI below the State's Average	123.78	0.02	111.80	11.96
c) All Districts	132.50	3.29	119.31	9.90

Note : 1. Y_i-Y represents the diviation of PCI of ith district from the state's average, DE_i the dependency effect, PE_i the productivity effect and IDP_i the interaction effect. Suffix i stands for ith district.

2. District with * mark had PCI levels above the State's average in 1972-73.

3. Results for regions/district groups have been obtained as arithmetic means of the results for corresponding districts.

ANNEXURE-7

Regional and Sectoral Effects in Differences of Aggregate Per Worker Income Between Districts and State as a whole (1968-69)

(Rs.at 1970-71 Prices)

District/Region	$|P_i-P|$	RE	SE	IRS
0	1	2	3	4
1. Agra*	574.160	208.717	287.142	78.301
2. Aligarh*	420.490	274.673	92.838	52.978
3. Budaun	404.847	261.509	159.128	-15.790
4. Bareilly*	361.362	258.873	115.054	-12.565
5. Bijnor*	648.563	481.570	100.806	66.186
6. Bulandshahr*	299.911	205.820	60.736	33.354
7. Etah	76.875	10.427	72.940	- 6.493
8. Etawah*	113.730	148.350	-9.654	-24.966
9. Farrukhabad	38.173	-15.513	40.530	13.156
10. Mainpuri*	87.311	144.847	-57.315	-0.219
11. Mathura*	648.400	471.315	108.542	68.542
12. Meerut*	858.955	478.696	335.801	44.457
13. Moradabad*	95.315	11.399	79.678	4.237
14. Muzaffarnagar*	526.906	421.532	72.398	32.975
15. Pilibhit*	564.900	600.964	-14.794	-21.269
16. Rampur*	376.903	328.353	51.828	-3.277
17. Saharanpur*	822.287	565.067	206.531	50.688
18. Shahjahanpur*	174.468	258.029	-50.866	-32.695
WESTERN REGION (Per Distt.)	394.09	284.15	91.74	18.20
19. Barabanki	335.627	167.034	145.312	23.281
20. Fatehpur	340.698	211.173	90.237	39.288
21. Hardoi	235.906	83.700	185.838	-33.631
22. Kanpur*	650.793	322.761	461.281	-133.250
23. Kheri*	40.650	205.698	-197.377	32.329
24. Lucknow*	610.106	130.296	647.418	-167.608
25. Rae Bareli	175.646	22.579	118.086	34.980
26. Sitapur	260.783	118.841	159.173	-17.231
27. Unnao	297.366	156.341	95.981	45.042
CENTRAL REGION (Per Distt.)	327.51	157.60	189.55	-19.64
28. Banda	192.247	37.860	140.716	13.670
29. Hamirpur*	13.314	127.944	-88.275	-26.354
30. Jalaun*	82.429	104.417	20.605	-42.594
31. Jhansi & Lalitpur*	248.252	132.527	108.862	0.862
BUNDELKHAND REGION (Per Distt.)	134.06	100.69	45.48	-12.11

Annexure-7(Contd.)

0	1	2	3	4
32. Allahabad	226.538	287.126	-67.170	6.583
33. Azamgarh	560.843	434.956	119.786	6.100
34. Bahraich	263.430	73.505	178.089	11.834
35. Ballia	245.088	154.387	63.842	26.858
36. Basti	426.509	211.987	190.765	23.761
37. Deoria	379.196	213.133	157.093	8.969
38. Faizabad	425.282	312.368	117.745	-4.832
39. Ghazipur	433.712	342.857	77.520	13.333
40. Gonda	353.179	173.547	210.360	-30.727
41. Gorakhpur	278.330	166.602	174.252	-62.524
42. Jaunpur	349.689	242.027	112.083	-4.421
43. Mirzapur	134.192	90.824	16.241	27.126
44. Pratapgarh	499.531	331.783	110.158	57.589
45. Sultanpur	299.447	131.026	87.482	80.939
46. Varanasi*	34.658	171.184	228.308	-22.485
EASTERN REGION (Per Distt.)	327.31	199.66	118.44	9.21
47. Almora & Pithoragarh	429.002	392.596	4.150	32.254
48. Dehradun*	921.049	252.858	248.672	419.518
49. Garhwal & Chamoli	64.529	21.370	-21.479	64.638
50. Nainital*	1162.409	869.252	136.370	156.786
51. Tehri & Uttarkashi	669.563	521.169	115.348	33.044
HILL REGION (Per Distt.)	649.31	411.45	96.61	141.25
UTTAR PRADESH (Per Distt.)	367.32	235.06	113.70	18.56

*Districts with productivity level(Pi) higher than that for the state(P)

ANNEXURE-8

Regional and Sectoral Effects in Differences of Aggregate Per Worker Income between Districts and State as a whole (1972-73)

(Rs.at 1970-71 prices)

District/Region	$|P_i-P|$	RE	SE	IRS
0	1	2	3	4
1. Agra*	704.431	268.455	379.344	56.630
2. Aligarh*	615.728	442.611	80.767	92.350
3. Budaun	177.754	7.820	141.057	28.877
4. Bareilly*	354.094	231.591	139.165	-16.662
5. Bijnor*	709.100	502.451	101.536	105.112
6. Bulandshahr*	611.732	500.582	44.172	66.977
7. Etah	45.879	-34.192	64.492	15.579
8. Etawah*	96.695	138.391	-28.543	-13.152
9. Farrukhabad	106.382	36.302	52.333	17.746
10. Mainpuri*	50.538	124.220	-71.736	-1.944
11. Mathura*	704.365	502.077	135.745	66.542
12. Meerut*	1270.874	826.645	388.840	55.388
13. Moradabad*	317.311	224.379	88.421	4.509
14. Muzaffarnagar*	820.563	702.090	58.610	59.863
15. Pilibhit*	483.523	533.475	-38.132	-11.819
16. Rampur*	204.618	153.086	59.745	-8.212
17. Saharanpur*	1209.637	914.929	283.068	11.634
18. Shahjahanpur	112.758	6.131	89.072	17.554
WESTERN REGION (Per Distt.)	477.56	337.84	109.33	30.39
19. Barabanki	520.923	321.157	191.067	8.699
20. Fatehpur	401.428	248.045	91.369	62.013
21. Hardoi	265.583	85.029	187.659	-7.104
22. Kanpur*	894.568	509.035	517.051	-131.518
23. Kheri	97.021	-99.714	202.000	-5.264
24. Lucknow*	763.083	202.956	811.001	-250.874
25. Rae Bareli	296.078	113.861	114.069	68.146
26. Sitapur	352.693	184.933	220.761	-53.001
27. Unnao	422.869	256.079	117.047	49.743
CENTRAL REGION (Per Distt.)	446.03	202.38	272.45	-28.80
28. Banda*	10.723	194.539	-132.770	-51.045
29. Hamirpur*	253.359	388.178	-50.815	-84.004
30. Jalaun*	231.298	257.691	22.290	-48.683
31. Jhansi & Lalitpur	293.877	156.667	123.065	14.144
BUNDELKHAND REGION (Per Distt.)	197.31	249.27	-9.56	-42.40

Annexure-8 (Contd.)

0	1	2	3	4
32. Allahabad	312.792	384.323	-84.572	13.041
33. Azamgarh	648.878	501.131	140.048	7.698
34. Bahraich	514.429	288.344	178.695	47.389
35. Ballia	490.408	382.202	69.837	38.368
36. Basti	619.298	364.333	224.171	30.793
37. Deoria	603.824	406.974	178.597	18.252
38. Faizabad	621.418	487.168	143.594	-9.345
39. Ghazipur	504.202	395.634	89.330	19.237
40. Gonda	524.078	310.738	269.935	-56.595
41. Gorakhpur	434.705	301.015	194.158	-60.467
42. Jaunpur	402.122	273.953	121.060	7.107
43. Mirzapur	270.987	222.094	66.815	-17.921
44. Pratapgarh	705.814	505.324	144.383	56.106
45. Sultanpur	497.209	296.113	123.029	78.066
46. Varanasi*	47.594	-199.421	286.280	-39.264
EASTERN REGION (Per Distt.)	479.85	328.00	143.02	8.83
47. Almora & Pithoragarh	246.120	201.512	-6.490	51.099
48. Dehradun*	1005.794	225.917	352.615	427.261
49. Garhwal & Chamoli	296.823	241.708	-5.520	60.635
50. Nainital*	1273.195	914.882	170.558	187.754
51. Tehri & Uttarkashi	338.473	163.818	46.342	128.312
HILL REGION (Per Distt.)	632.08	349.57	111.50	171.01
UTTAR PRADESH (Per Distt.)	465.84	305.24	138.92	21.68

*Districts with productivity land (Pi) higher than that for the state (P).

ANNEXURE-9

Regional and Sectoral Effects in Differences of Aggregate Per Worker Income Between Districts and State as a Whole (1975-76)

(Rs. at 1970-71 prices)

District/Region	$\lvert P_i - P \rvert$	RE	SE	IRS
0	1	2	3	4
1. Agra*	429.290	-2.726	371.086	60.930
2. Aligarh*	324.499	159.647	105.524	59.326
3. Budaun	438.271	264.913	159.638	13.719
4. Bareilly*	191.421	84.969	125.262	-18.811
5. Bijnor*	513.660	314.901	135.633	63.126
6. Bulandshahr*	276.751	175.669	56.878	44.204
7. Etah	177.869	93.679	95.971	-11.781
8. Etawah	61.015	10.475	20.013	30.525
9. Farrukhabad	275.197	211.337	47.994	15.864
10. Mainpuri	210.397	135.830	64.241	10.326
11. Mathura*	469.089	282.609	132.912	53.566
12. Meerut*	927.985	484.409	377.071	66.505
13. Moradabad*	69.786	-27.573	93.665	3.694
14. Muzaffarnagar*	355.838	234.940	74.868	46.029
15. Pilibhit*	197.185	248.982	- 37.367	-14.429
16. Rampur*	95.116	44.985	62.686	-12.555
17. Saharanpur*	933.580	649.035	308.777	-24.233
18. Shahjahanpur	175.864	72.436	75.042	28.385
WESTERN REGION (Per Distt.)	340.16	191.03	126.11	23.02
19. Barabanki	609.361	419.230	184.138	5.992
20. Fatehpur	488.628	335.308	86.336	66.983
21. Hardoi	450.168	268.062	189.894	-7.289
22. Kanpur*	678.380	290.314	482.086	-94.020
23. Kheri	15.126	-151.880	122.145	44.862
24. Lucknow*	577.842	50.507	738.486	-211.152
25. Rae Bareli	453.557	271.085	115.226	67.245
26. Sitapur	443.760	276.775	187.261	-20.276
27. Unnao	446.996	283.391	102.467	61.137
CENTRAL REGION (Per Distt.)	462.65	226.98	245.34	-9.67
28. Banda	288.530	106.218	154.181	28.130
29. Hamirpur	94.757	-41.672	80.370	56.059
30. Jalaun*	76.546	114.587	24.993	-63.574
31. Jhansi & Lalitpur*	100.031	-22.817	110.614	12.234
BUNDELKHAND REGION (Per Distt.)	139.83	39.08	92.54	8.21

Annexure-9 (Contd.)

0	1	2	3	4
32. Allahabad*	62.733	-6.428	43.141	26.020
33. Azamgarh	726.379	595.912	133.262	-2.795
34. Bahraich	678.788	450.045	192.680	36.063
35. Ballia	662.301	556.591	72.750	32.959
36. Basti	815.827	568.211	241.058	6.557
37. Deoria	821.673	624.577	179.378	17.718
38. Faizabad	749.164	621.822	140.028	-12.686
39. Ghazipur	623.958	518.970	86.808	18.179
40. Gonda	612.137	398.924	291.025	-77.813
41. Gorakhpur	553.698	420.162	162.912	-28.975
42. Jaunpur	621.096	496.846	124.727	- 0.478
43. Mirzapur	377.290	333.072	64.979	-20.760
44. Pratapgarh	779.579	584.176	137.151	58.251
45. Sultanpur	567.685	369.506	130.195	67.982
46. Varanasi*	5.202	-259.146	256.550	7.798
EASTERN REGION (Per Distt.)	577.17	418.22	150.42	8.53
47. Almora & Pithoragarh	406.783	342.451	-6.673	71.005
48. Dehradun*	755.786	36.416	417.814	301.556
49. Garhwal & Chamoli	394.172	319.687	13.161	61.323
50. Nainital*	1149.887	825.854	130.843	187.190
51. Tehri & Uttarkashi	528.168	343.434	42.822	141.910
HILL REGION (Per Distt.)	646.96	373.57	120.79	152.60
UTTAR PRADESH (Per Distt.)	445.85	270.17	151.14	24.54

*Districts with productivity level(B_i) higher than
that for the state(B)

Annexure-10

Average Annual Compound Growth Rates of Sectoral Incomes and Per Capita Incomes of Districts (1968-76)

(% per annum)

District/Region	Sectors PRI	MAN	SEC	All Sectors	Population	Per Capita Income
0	1		2	3	4	5
1. Agra	2.1	-	8.7	4.2	2.1	2.0
2. Aligarh	4.9	-	5.2	4.6	1.9	2.5
3. Budaun	9.4	-	0.8	7.5	1.7	4.0
4. Bareilly	2.2	-	6.2	3.7	2.1	1.6
5. Bijnor	4.5	-	4.9	4.5	2.4	2.1
6. Bulandshahr	7.2	-	1.3	5.4	1.5	3.8
7. Etah	5.4	-	4.1	4.9	1.7	3.1
8. Etawah	2.8	-	9.1	3.6	2.0	1.6
9. Farrukhabad	2.6	-	-0.4	2.7	2.0	0.6
10. Mainpuri	0.9	-	4.0	1.8	1.9	-0.1
11. Mathura	2.7	-	6.0	3.3	1.8	1.4
12. Meerut	6.6	-	8.6	6.5	2.3	4.1
13. Moradabad	7.6	-	7.6	6.7	2.7	3.8
14. Muzaffarnagar	7.3	-	2.3	5.9	2.3	3.5
15. Pilibhit	1.6	-	4.2	2.4	2.4	0.0
16. Rampur	-0.8	-	7.8	1.8	2.6	-0.8
17. Saharanpur	4.8	-	14.7	6.8	2.4	4.2
18. Shahjahanpur	-0.5	-	4.7	0.7	1.8	-1.1
19. Barabanki	-0.6	-	7.9	1.0	1.7	-0.7
20. Fatehpur	3.7		0.0	3.4	1.9	1.5
21. Hardoi	3.0	-	1.7	2.7	1.8	0.8
22. Kanpur	7.5	.7	7.3	5.9	2.3	3.5
23. Kheri	1.8	-	4.9	1.6	2.2	-0.6
24. Lucknow	1.2	-	12.1	4.7	2.0	2.6
25. Rae Bareli	0.4	-	-2.6	0.6	1.8	-1.2
26. Sitapur	1.0	-	6.7	2.3	1.8	0.5
27. Unnao	4.9	-	-0.4	4.3	2.0	2.3
28. Banda	5.4	5	5.9	5.2	2.4	2.8
29. Hamirpur	4.2	.7	-1.2	3.7	2.0	1.6
30. Jalaun	4.9	-	6.6	4.8	2.0	2.7
31. Jhansi & Lalitpur	2.6		3.7	3.3	2.2	1.11

Annexure 10 (Contd.)

0	1	2	2	3	4	5
32. Allahabad	7.2		10.1	6.6	2.2	4.3
33. Azamgarh	3.7		3.0	3.7	1.9	1.8
34. Bahraich	-3.1	-1..	- 1.1	2.●	1.9	-3.8
35. Ballia	-3.7	-..	- 8.5	2.5	1.8	-4.2
36. Basti	-2.8	- ..	- 1.1	1.9	1.5	-3.3
37. Deoria	-1.1		- 0.6	0.2	2.0	-2.2
38. Faizabad	-0.5		1.1	0.8	1.8	-2.6
39. Ghazipur	2.3		2.7	2.8	1.9	0.9
40. Gonda	-1.9		1.0	0.7	1.6	-2.2
41. Gorakhpur	1.1		1.0	1.8	1.9	-0.7
42. Jaunpur	1.5		-5.3	1.4	1.9	-0.4
43. Mirzapur	5.4		-2.1	3.4	2.4	1.0
44. Pratapgarh	-0.4		3.9	0.5	1.8	-1.2
45. Sultanpur	-0.6		9.3	0.6	1.8	-1.2
46. Varanasi	3.5		9.1	5.1	2.2	2.9
47. Almora & Pithoragarh	10.9		6.3	9.1	2.7	6.3
48. Dehradun	2.6		7.5	4.3	2.9	1.3
49. Garhwal & Chamoli	-3.9		5.4	-2.3	1.5	-3.7
50. Nainital	5.7		6.3	5.8	3.4	2.3
51. Tehri & Uttarkashi	13.9	-1.	0.4	11.3	1.8	9.2

PRI : Primary Sector (Agriculture and Allied and Mining and
      Quarrying)

SEC : Secondary Sector (Manufacturing and Construction)

Note : The Growth rates were worked out taking into account
       the observations for all the individual years.

ANNEXURE-11

Distribution of Income by Major Sectors of the Economy for Districts and Regions of Uttar Pradesh, based on the Estimates at Constant Prices 1970-71

(Percentages)

District/Region	1968-69			1972-73			1975-76		
	PRI	SEC	TER	PRI	SEC	TER	PRI	SEC	TER
0	1	2	3	4	5	6	7	8	9
1. Agra	38.15	17.15	44.70	35.43	20.49	44.08	36.86	19.56	43.58
2. Aligarh	57.27	14.57	28.16	60.26	13.24	26.50	55.88	16.47	27.65
3. Budaun	69.48	9.41	21.11	74.95	7.70	17.35	74.71	6.62	18.67
4. Bareilly	51.87	18.80	29.33	51.39	16.55	32.06	48.90	22.25	28.85
5. Bijnor	61.04	18.27	20.69	63.02	15.55	21.43	62.71	16.95	20.34
6. Bulandshahr	60.99	14.87	24.14	66.70	12.17	21.13	66.63	21.20	22.17
7. Etah	64.75	12.46	22.79	67.98	9.34	22.68	65.30	13.62	21.08
8. Etawah	70.32	8.16	21.52	66.71	11.02	22.27	70.56	9.39	20.05
9. Farrukhabad	69.37	8.45	22.18	68.71	7.59	23.70	71.97	6.41	21.62
10. Mainpuri	68.71	12.36	18.93	67.09	13.07	19.84	65.96	14.14	19.90
11. Mathura	62.28	11.05	26.67	60.13	12.70	27.17	59.70	12.58	27.72
12. Meerut	39.93	29.34	30.73	41.38	30.90	27.72	39.98	33.06	26.96
13. Moradabad	51.78	14.77	33.45	53.59	15.85	30.56	53.33	15.56	31.11
14. Muzaffarnagar	60.58	16.54	22.88	64.71	14.32	20.97	65.97	13.88	20.15
15. Pilibhit	72.69	10.32	16.99	69.25	12.14	18.61	74.29	9.38	16.33
16. Rampur	62.99	12.26	24.75	55.38	15.95	28.67	57.60	14.79	27.61
17. Saharanpur	50.26	20.82	28.92	47.70	26.07	26.23	41.22	37.06	21.72
18. Shahjahanpur	73.95	5.57	20.48	67.30	7.07	25.63	72.31	5.98	21.71
WESTERN REGION	56.48	16.32	27.20	56.30	17.19	26.51	55.44	19.18	25.38
19. Barabanki	75.59	10.08	14.33	68.98	14.07	16.95	70.32	15.32	14.36
20. Fatehpur	75.09	8.69	16.22	75.40	7.65	16.95	77.41	7.54	15.05
21. Hardoi	72.09	11.23	16.68	72.45	10.37	17.18	75.26	7.35	17.39
22. Kanpur	28.69	22.74	48.57	29.41	24.94	45.65	33.85	23.68	42.47
23. Kheri	77.07	9.63	13.30	76.16	8.89	14.95	80.00	5.28	14.72
24. Lucknow	22.06	15.48	62.46	16.41	20.79	60.80	18.52	23.55	57.93
25. Rae Bareli	78.26	8.22	13.52	78.15	6.87	14.98	77.62	7.00	15.38
26. Sitapur	70.79	11.84	17.37	64.04	17.14	18.82	69.69	12.15	18.16
27. Unnao	76.37	9.64	13.99	74.25	10.18	15.57	80.48	6.61	12.91
CENTRAL REGION	55.74	14.03	30.23	52.22	16.39	31.39	55.21	15.27	29.52
28. Banda	76.19	6.55	17.26	79.34	5.59	15.07	78.29	6.17	15.54
29. Hamirpur	76.04	9.75	14.21	80.81	6.75	12.44	77.17	8.36	14.47
30. Jalaun	69.28	7.33	23.39	70.37	7.82	21.81	72.04	7.70	20.26
31. Jhansi & Lalitpur	51.70	13.08	35.22	51.92	12.50	35.58	52.79	11.47	35.74
BUNDEL KHAND REGION	66.69	9.64	23.67	69.62	8.41	21.97	68.57	8.66	22.77

Contd./-

Annexure-11(Contd.)

0	1	2	3	4	5	6	7	8	9
32. Allahabad	43.88	15.84	40.28	36.36	20.29	43.35	43.63	22.80	33.57
33. Azamgarh	68.60	11.51	19.89	65.84	12.90	21.26	68.69	12.20	19.11
34. Bahraich	80.53	6.11	13.36	77.27	5.97	16.76	77.54	6.27	16.19
35. Ballia	72.12	8.85	19.03	71.36	4.96	23.68	68.26	8.31	23.43
36. Basti	81.10	6.71	12.19	78.82	6.48	14.70	79.76	5.35	14.89
37. Deoria	76.11	10.94	12.95	71.98	12.03	15.99	76.80	9.57	13.63
38. Faizabad	64.75	10.59	24.66	58.04	12.15	29.81	63.87	8.76	27.37
39. Ghazipur	64.60	13.93	21.47	63.48	13.98	22.54	66.41	12.55	21.04
40. Gonda	75.02	8.94	16.04	69.66	11.51	18.83	72.93	7.84	19.23
41. Gorakhpur	63.29	12.71	24.00	61.82	10.35	27.83	60.07	15.33	24.60
42. Jaunpur	65.29	11.14	23.57	66.43	8.91	24.66	70.01	5.84	24.15
43. Mirzapur	50.42	26.84	22.74	52.89	21.63	25.48	54.37	23.76	21.87
44. Pratapgarh	78.67	4.38	16.95	73.95	5.18	20.87	76.88	4.26	18.86
45. Sultanpur	82.15	4.17	13.68	78.54	5.14	16.32	78.37	5.55	16.08
46. Varanasi	33.50	23.43	43.07	30.22	25.95	43.83	33.05	26.81	40.14
EASTERN REGION	64.48	12.50	23.02	60.38	13.28	26.34	62.04	13.90	24.06
47. Almora & Pithoragarh	69.76	9.09	21.15	74.17	8.47	17.36	74.55	7.74	17.71
48. Dehradun	33.39	14.55	52.06	30.35	17.95	51.70	32.28	19.83	47.89
49. Garhwal & Chamoli	80.69	5.01	14.30	76.58	6.63	16.79	77.51	6.02	16.47
50. Naini Tal	63.38	13.18	23.44	63.65	12.66	23.69	65.28	13.37	21.35
51. Tehri & Uttarkashi	74.36	11.92	13.72	82.70	8.18	9.12	85.07	6.32	8.61
HILL REGION	63.88	10.60	25.52	64.31	11.10	24.59	65.36	11.32	23.32
STATE	59.67	14.10	26.23	57.82	15.27	26.91	58.53	15.98	25.49

PRI : Primary Sector;   SEC : Secondary Sector;
TER : Tertiary Sector

ANNEXURE-12

Distribution of Income by Major Sectors of the Economy for Districts and Regions of Uttar Pradesh, based on the Estimates at Current Prices

(Percentages)

District/Region	1968-69			1972-73			1975-76			1975-77		
	PRI	SEC	TER	PRI	SEC	TER	PRI	SEC	TER	PRI	SEC	TER
0	1	2	3	4	5	6	7	8	9	10	11	12
1. Agra	37.70	16.42	45.88	38.96	19.33	41.71	30.24	19.39	50.37	32.46	18.22	49.32
2. Aligarh	57.77	13.64	28.59	64.58	11.66	23.76	51.29	16.53	32.18	50.79	15.83	33.38
3. Budaun	76.90	6.63	16.47	78.80	6.32	14.88	72.70	6.39	20.91	73.94	5.53	20.48
4. Bareilly	51.81	18.17	30.02	52.26	19.09	28.65	44.09	22.34	33.57	46.02	19.67	34.31
5. Bijnor	64.33	15.84	19.83	65.66	16.15	18.19	59.66	16.95	23.39	53.25	20.46	26.29
6. Bulandshahr	62.79	13.35	23.86	69.35	10.99	19.66	61.77	11.67	26.56	57.17	13.63	29.15
7. Etah	68.48	10.21	21.31	74.81	6.74	18.45	63.58	18.06	23.36	64.22	9.96	25.82
8. Etawah	70.72	7.55	21.73	69.75	9.84	20.41	62.89	10.68	26.43	59.48	11.40	29.12
9. Farrukhabad	68.55	8.13	23.32	71.73	6.62	21.65	69.68	6.18	24.14	65.27	7.36	27.37
10. Mainpuri	70.99	10.85	18.16	70.92	11.36	17.72	63.10	13.91	22.99	63.97	13.38	22.65
11. Mathura	59.38	11.17	29.45	63.63	11.31	25.06	51.67	13.76	34.57	50.99	13.58	35.43
12. Meerut	46.08	25.49	28.43	48.16	27.40	24.44	38.32	31.48	30.20	37.29	30.59	32.12
13. Moradabad	58.03	12.11	29.86	58.72	14.05	27.23	50.85	15.08	34.07	50.05	14.36	35.59
14. Muzaffarnagar	68.05	12.79	19.16	70.74	11.69	17.57	61.93	14.01	24.06	60.59	14.66	24.75
15. Pilibhit	73.69	9.36	16.95	73.99	10.15	15.86	70.35	5.79	19.86	68.58	10.21	21.21
16. Rampur	63.51	11.38	25.11	60.37	14.05	25.58	53.66	14.77	31.57	54.38	13.68	31.94
17. Saharanpur	54.57	18.33	27.10	53.05	23.51	23.44	39.05	35.85	20.10	39.10	30.85	30.05
18. Shahjahanpur	72.55	5.55	21.90	70.39	6.44	23.17	68.45	6.23	25.32	67.41	5.89	26.70
19. WESTERN REGION	59.31	14.53	26.16	60.94	15.52	23.54	51.74	18.93	29.33	50.87	17.97	31.16
Barabanki	76.50	9.11	14.39	74.95	11.21	13.84	68.77	15.02	16.21	67.83	14.82	17.35
1. Fatehpur	74.26	8.38	17.36	78.36	6.52	15.12	71.21	8.66	20.13	72.90	7.95	19.15
20. Hardoi	73.64	9.93	16.43	77.22	8.37	14.41	73.12	7.16	19.72	71.58	7.44	20.98
21. Kanpur	28.57	22.26	49.17	34.17	23.60	42.23	31.63	21.40	46.97	30.27	19.33	50.40
22. Kheri	80.01	8.14	11.85	81.15	7.07	11.78	78.07	5.67	16.26	76.49	5.48	18.03

Contd./-

Annexure–12(Contd.)

	0	1	2	3	4	5	6	7	8	9	10	11	12
24.	Lucknow	23.32	14.59	62.?9	23.52	19.65	56.83	18.59	21.18	60.23	18.56	19.00	62.44
25.	Rae Bareli	76.44	8.31	15.25	80.31	6.00	13.69	73.50	7.44	19.06	72.09	9.25	18.66
26.	Sitapur	73.81	10.20	15.99	73.40	10.97	15.63	69.45	11.10	19.45	67.96	10.92	21.12
27.	Unnao	79.00	8.13	12.87	79.45	8.00	12.55	79.31	6.29	14.40	73.64	8.87	17.49
	CENTRAL REGION	57.11	13.06	29.83	58.65	14.03	27.32	52.72	14.36	32.92	51.33	13.71	34.96
28.	Banda	76.59	5.95	17.46	81.63	4.80	13.57	72.38	7.01	20.61	69.67	8.55	21.78
29.	Hamirpur	75.80	9.25	14.95	82.90	5.80	11.30	69.41	10.13	20.46	73.30	7.93	18.77
30.	Jalaun	70.72	6.51	22.77	73.84	6.59	19.57	64.36	8.73	26.91	65.69	7.86	26.45
31.	Jhansi & Lalitpur	52.65	12.20	35.15	54.53	11.78	33.69	47.58	11.87	40.55	49.34	10.37	40.29
	BUNDEL KHAND REGION	67.27	8.90	23.83	72.61	7.42	19.97	61.62	9.65	28.73	62.59	8.92	28.49
32.	Allahabad	45.07	1484	40.09	52.08	16.23	31.69	42.45	20.86	36.69	40.98	20.91	38.11
33.	Azamgarh	70.29		19.57	72.02	10.37	17.61	68.55	11.08	20.37	69.16	8.52	22.32
34.	Bahraich	78.71	6.25	15.04	77.83	5.61	16.56	71.22	7.02	21.76	71.11	5.65	23.24
35.	Ballia	73.47	7.81	18.72	74.77	4.17	21.06	64.21	8.37	27.42	66.56	6.24	27.20
36.	Basti	80.79	6.37	12.84	81.12	5.64	13.24	75.56	5.58	18.86	74.76	4.85	20.39
37.	Deoria	78.57	9.51	11.92	78.43	9.14	12.43	75.46	9.05	15.49	72.17	9.86	17.97
38.	Faizabad	69.19	8.60	22.21	66.26	9.52	24.22	67.49	7.00	25.51	60.62	7.61	31.77
39.	Ghazipur	67.02	12.48	20.50	69.02	11.56	19.42	63.84	12.16	24.00	62.84	12.81	24.35
40.	Gonda	75.78	8.20	16.02	73.95	9.72	16.33	67.89	8.28	23.83	65.94	8.19	25.87
41.	Gorakhpur	64.74	11.80	23.46	67.92	8.80	23.28	60.53	13.74	25.73	53.70	15.4C	30.90
42.	Jaunpur	66.76	9.87	23.37	71.17	7.42	21.41	67.62	5.50	26.88	64.72	6.41	28.87
43.	Mirzapur	54.37	24.30	21.33	60.08	18.33	21.59	53.59	22.14	24.27	51.74	22.78	25.48
44.	Pratapgarh	82.38	3.32	14.30	80.31	3.79	15.90	76.56	3.82	19.62	74.70	4.45	20.85
45.	Sultanpur	80.80	4.15	15.05	81.46	4.29	14.25	72.75	6.23	21.02	72.99	5.46	21.55
46.	Varanasi	36.30	21.58	42.12	36.63	23.60	39.77	31.08	25.33	43.59	28.21	26.09	45.70
	EASTERN REGION	65.91	11.46	22.63	66.61	11.21	22.18	59.87	13.18	26.95	57.35	13.40	29.25

Annexure-12(Contd.)

0	1	2	3	4	5	6	7	8	9	10	11	12
47. Almora & Pithoragarh	71.11	8.28	20.61	75.55	7.69	16.76	71.78	7.95	20.27	67.99	9.86	22.15
48. Dehradun	32.21	14.32	53.47	29.68	17.77	52.55	29.85	18.45	51.70	22.18	23.32	54.50
49. Garhwal & Chamoli	79.40	5.14	15.46	73.26	7.26	19.48	72.02	6.99	20.99	71.41	6.92	21.67
50. Naini Tal	65.90	12.71	21.39	68.65	10.73	20.62	59.81	14.16	26.03	57.36	14.36	28.28
51. Tehri & Uttarkashi	78.21	9.75	12.04	82.87	7.81	9.32	82.78	6.79	10.43	75.86	9.39	14.75
HILL REGION	64.74	10.26	25.00	65.38	10.47	24.15	60.71	11.72	27.57	55.91	13.68	30.41
STATE	61.56	12.84	25.60	62.98	13.34	23.68	55.23	15.59	29.18	53.64	15.20	31.16

PRI : Primary Sector; SEC : Secondary Sector

TER : Tertiary Sector

ANNEXURE-13

Selected Indicators of Sectoral Characteristics and Infrastructural Development and Financial Resource Inflows for Districts of Uttar Pradesh

The districtwise data presented onwards in this Annexure is partly in the form of indicators and partly as 'absolute figures and not ratios, which were in turn derived in a few alternatives from them. The captions for names/definitions of data columns have been given in abbreviated forms, which along with column reference numbers are presented below. Data sources, necessary footnotes and the data chart follow subsequently in that order.

DEFINITION

	Caption	Col.No.
1. Percentage of Gross Cropped Area (1972-75) under		
1.1 Paddy	Pdy%	1
1.2 Wheat	Wht%	2
1.3 Oilseeds, Sugarcane & Potato	CC%	3
1.4 High Yielding Varieties (HYV)	HYV%	4
2. Percentage of HYV area in total area(1972-75) under		
2.1 Paddy	HY(P)%	5
2.2 Wheat	HY(W)%	6
3. Net irrigated area as percentage of Net area sown		
3.1 Year 1968-69	NIA%(9)	7
3.2 Year 1976-77	NIA%(7)	8
4. Percentage of Net Irrigated Area Served by Tubewells		
4.1 Year 1968-69	YW%(9)	9
4.2 Year 1976-77	TW%(7)	10

156

156

5.   Percentage of Gross Irrigated Area to
        Gross Cropped Area

    5.1 Year 1968-69   GIA%(9) 11
    5.2 Year 1976-77   GIA%(7) 12

6.   Cropping Intensity(Percentage of Gross Cropped
        Area to Net Area Sown)

    6.1 Year 1968-69   CI(9)   13
    6.2 Year 1975-76   CI(6)   14

7.   Distribution of Fertilizers(Kg. per Hectare)

    7.1 Year 1968-69   FERT(9) 15
    7.2 Year 1975-77   FERT(7) 16

8.   Agricultural Productivity (Value of Output
        Per Hectare of Net Area Sown in Rs.at 1960-
        61 prices)

    8.1 Year 1968-69   PTY(9)   17
        Year 1975-76   PTY(6)   18

9.   Average Size of Agricultural Holdings
        (1976-77)   LHS   19

10.   Index of Mechanisation (State = 100,
        year 1972)   MECH   20

11.   Average Annual Compound Growth Rate(1968-
        76) of Income of

    11.1 Manufacturing (Rejistered)   MRGR   21
    11.2 Manufacturing (Un-registered)   MUGR   22
    11.3 Manufacturing (Total)   MTGR   23

12.   Percentage of Urban Population to Total
        Population (1971)   UPR   24

13.   Length of Metalled Roads Per Thousand Sq.Km. Density
        of Area (Kms.) March 1975   Road   25
                                                        Dens.

14.   Percentage of Inhabited Villages Connected
        (below 1 Km. from) Pucca Road, 1976   VCR%   26

15.   Percentage of Electrified Villages 1976   VE%   27

16.   Number of Bank Offices Per Lakh of   Bank
        Population   Dens.   28

17.   Average Annual Plan Expenditure(1974-77) in
        Lakh Rs.

    17.1 Agricultural   PE Agri. 29
    17.2 Total   PE Total 30

18. Loan Distributed by Land Development Bank(1975-
    76) in Lakh Rs.   LDB   31
                                                        Loan

19. Loan Distributed by Commercial Banks(1975-76)
    in Thousand Rs.

  19.1 Total   CB Loan(T) 32
  19.2 Priority/Weaker Sector   CB Loan
                                                        (P/W)   33

20. Commercial Bank Financing(1975-76) for

  20.1 Agriculture   CBF(Agri) 34
  20.2 Craftsmen, Qualified Entrepreneurs and Small CBF(SSI) 35
       Scale Industries
  20.3 Retail Trade & Small Business   CBF(RTSB) 36
  20.4 Professionals and Self-Employeds   CBF(PSE) 37

21. Short-term Loan Distributed per Capita
    (Rural), 1974-75 in Rs.   STL   38

       The data sources for the 21 items listed above are

   Item Nos.   Data Source

1,2,13,14,15,16,21   Ranking of Districts by Indicators of
                          Resource Potentials and Level of
                          Development, Area Planning Division,
                          State Planning Institute(mimeo &
                          undated), Govt.of U.P.

3,4,5,6,9   Bulletins of Agricultural Statistics
                          and Season & Crop Reports, Government
                          of Uttar Pradesh.

7,8   Districtwise Indicators of Develop-
                          ment(Hindi), Area Planning Division,
                          State Planning Institute, Government
                          of Uttar Pradesh 1979.

10   R.C.Sinha, Agricultural Development
                          and Rural Employment in T.S. Papola
                          et al. Studies on Development of
                          Uttar Pradesh, Giri Institute of
                          Development Studies, Lucknow, 1979.

11   District Income Estimates

12   Census 1971

17   District Annual Plans, 1977-78 and
                          1978-79

18   U.P. State Co-operative Land
                          Development Bank,(Head quarter),
                          Lucknow.

19, 20

Directorate of Institutional
Finance, Government of Uttar Pradesh,
Lucknow.

Note :

1.   Index of Mechanisation (Item 10) was worked
out by linearly pooling the numbers of tubewells
and pumping sets (electric and diesel), power
tillers, four-wheal tractors, crawler tractors and
threshers (wheat and rice) per hectare of net area
sown, and these district-wise figures were indexed
with that for Uttar Pradesh at 100.

2.   Average annual plan expenditure (1974-77), as
reported in district plans may not be very accurate
for organisational reasons. Still they have been
used for want and of alternative data source.

3.   The figures of commercial bank loans(Item 19)
were obtained as differences of total(cumulative)
advances between last fridays of December.

4.   Priority/weaker/sector (Item 19.2) included
the items 20.1 to 20.4 and Transport and Industrial
Estate as reported.

5.   For individual items 20.1 to 20.4, the figures
of loan advanced were not available. The differe-
nces between 'Balance Outstanding' reported as on
last friday of consecutive December months across
districts were taken as proxy for the district-wise
pattern of loaning for each of these items.

DATA CHART

District	Pdy%	Wht%	CC%	HYV%	HY(P)%	HYW%	NIA%(9)	NIA(%)(7)	TW%(9)	TW%(7)	GIA%(9)	GIA%(7)	CI(9)	CI(6)	FERT(9)	FERT(7)	PTY(9)	PTY(6)	LHS	MECH
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Agra	0.40	29.10	9.70	27.85	100.00	93.50	41.00	53.90	33.87	65.91	36.50	43.70	120.34	178.61	9.87	32.69	600.84	761.46	1.58	107.0
2. Aligarh	2.00	32.30	4.20	34.40	36.40	100.00	78.50	85.90	40.37	62.10	65.00	64.90	149.39	153.73	12.95	31.02	813.94	955.35	1.64	116.0
3. Budaun	6.40	33.90	17.60	22.64	39.40	70.90	33.60	50.50	49.90	50.54	30.80	44.60	121.33	131.87	11.65	31.19	769.19	928.53	1.09	52.0
4. Bareilly	24.70	28.40	17.50	23.69	24.80	62.80	34.70	48.00	10.64	27.13	32.20	45.70	130.18	137.70	15.61	41.01	791.26	1107.99	1.10	60.0
5. Bijnor	21.40	28.60	28.70	26.04	34.80	68.20	33.50	51.80	68.96	76.37	30.50	41.30	124.76	128.48	13.25	33.57	610.95	746.42	1.58	140.0
6. Bulandshahr	1.60	34.00	10.10	33.62	42.90	100.00	75.90	87.50	40.26	59.45	66.10	77.20	148.20	158.25	30.22	55.70	854.96	1148.10	1.56	226.0
7. Etah	5.10	31.50	7.20	32.41	50.00	91.90	57.20	67.90	22.02	40.95	49.40	52.20	140.11	147.77	12.06	25.74	721.38	929.03	1.02	97.0
8. Etawah	14.90	25.60	9.80	23.91	20.40	82.60	49.80	64.60	11.88	21.74	44.80	59.50	139.82	129.77	13.64	25.08	727.53	849.53	1.08	80.0
9. Farrukhabad	6.10	31.00	16.30	21.52	20.80	66.70	42.60	57.00	43.47	58.48	37.70	48.40	130.83	137.34	29.19	49.05	786.23	1058.11	0.90	126.0
10. Mainpuri	11.90	34.30	8.00	40.98	52.20	95.50	64.10	74.90	23.66	43.38	53.30	60.40	136.59	103.74	32.02	31.21	801.80	940.45	0.97	169.0
11. Mathura	0.90	36.50	6.90	40.03	100.00	100.00	56.70	74.20	20.05	41.54	49.60	59.30	125.41	134.54	9.21	18.29	779.78	803.13	1.99	123.0
12. Meerut	3.50	33.90	30.30	31.71	43.05	91.00	80.80	89.00	36.24	52.62	78.90	83.40	146.52	153.62	36.25	64.74	1105.11	1502.88	1.34	325.0
13. Moradabad	13.90	36.10	18.00	34.40	31.70	85.70	43.00	62.50	39.97	46.37	39.30	53.00	128.96	137.37	19.20	37.23	653.16	955.87	1.28	123.0
14. Muzaffarnagar	7.60	33.30	30.20	34.55	66.70	89.10	75.10	82.60	33.69	47.07	71.40	76.50	140.08	144.61	33.55	65.92	1170.54	1673.50	1.50	1011.0
15. Pilibhit	34.70	31.20	16.80	25.90	31.10	52.90	26.70	51.30	16.75	48.46	24.30	44.20	131.34	148.51	13.40	32.65	875.63	1129.67	1.23	30.0
16. Rampur	24.10	32.70	11.20	30.57	50.90	58.80	26.60	55.00	28.92	29.67	22.60	47.00	141.84	150.51	15.90	42.75	841.51	1061.69	1.16	147.0
17. Saharanpur	16.10	30.60	21.00	28.44	36.50	77.40	45.30	61.30	35.10	58.30	41.60	55.00	142.27	149.65	19.34	53.16	984.04	1337.00	1.63	231.0
18. Shahjahanpur	20.20	34.00	13.60	27.14	34.80	61.50	28.50	53.10	25.82	46.83	26.60	50.70	122.70	131.83	8.62	32.64	790.74	889.54	1.07	73.0
19. Barabanki	30.00	24.10	7.40	34.91	58.60	69.20	35.50	39.20	14.32	25.25	29.20	36.30	138.72	140.15	31.16	41.99	1001.32	1059.35	0.82	139.0
20. Fatehpur	19.20	18.70	4.80	16.90	18.10	68.10	29.30	38.40	2.63	24.27	27.50	35.90	118.81	123.41	4.81	18.02	603.33	738.38	1.19	38.0
21. Hardoi	11.70	28.10	18.70	16.89	14.30	49.40	21.10	42.90	13.13	30.71	17.60	37.90	124.86	127.93	5.13	15.95	666.75	751.98	1.02	56.0
22. Kanpur	12.60	24.80	9.90	18.32	20.60	63.90	32.80	46.40	11.00	27.45	31.00	46.40	120.47	120.59	12.38	23.76	620.31	787.60	1.06	69.0
23. Kheri	21.70	24.90	21.50	13.49	14.80	40.40	12.90	18.10	59.81	66.44	10.70	16.40	126.47	130.38	6.24	24.01	721.89	804.82	1.16	106.0
24. Lucknow	20.70	30.00	7.70	19.49	19.10	50.90	36.60	50.00	6.75	21.58	33.40	47.10	129.87	129.31	11.44	42.98	813.58	888.91	0.99	46.0
25. Rae Bareli	27.50	20.90	3.30	23.10	16.50	91.90	46.30	48.90	3.66	13.84	42.40	47.00	132.70	131.72	7.01	20.54	986.45	877.46	0.82	30.0
26. Sitapur	18.10	29.50	15.90	18.45	19.80	46.60	20.00	30.90	22.61	37.44	16.40	27.10	127.10	124.92	5.41	13.48	698.41	750.78	0.99	46.0
27. Unnao	17.80	36.10	7.00	21.16	17.70	71.30	32.30	46.50	2.72	15.99	28.80	44.20	131.71	145.27	4.14	14.59	767.16	976.69	0.97	40.0
28. Banda	15.20	21.90	1.90	6.95	11.60	24.20	15.10	18.80	0.35	0.84	14.50	19.30	116.07	111.80	1.53	3.33	400.09	437.01	2.12	8.0
29. Hamirpur	1.60	26.30	6.50	2.14	42.90	25.90	13.40	16.90	0.13	1.09	14.00	16.60	103.71	103.16	1.35	2.61	338.04	346.74	2.58	21.0
30. Jalaun	2.80	32.50	5.30	15.95	100.00	41.10	34.10	31.60	0.18	0.81	34.20	31.70	104.25	102.60	6.79	13.41	376.97	459.46	2.23	54.0
31. Jhansi & Lalitpur	3.90	30.80	4.60	8.21	5.00	15.90	21.10	25.10	0.14	22.56	19.60	24.50	109.29	111.31	1.94	6.56	363.51	396.63	2.37	32.0
32. Allahabad	23.50	19.10	4.00	20.51	30.30	61.30	23.90	35.10	22.77	49.77	22.60	33.70	119.29	123.67	11.94	28.19	568.33	829.44	0.96	31.0
33. Azamgarh	35.60	12.70	8.00	23.70	48.20	97.80	50.30	55.20	19.69	54.59	41.70	45.30	124.73	131.36	13.73	32.84	706.76	895.97	0.62	50.0
34. Bahraich	29.10	24.10	5.30	15.25	20.30	35.10	9.00	16.40	30.47	64.71	6.80	12.30	133.14	133.42	6.49	13.98	599.11	565.48	0.98	33.0
35. Ballia	25.20	17.10	6.40	23.51	36.80	71.20	39.00	45.70	26.55	36.26	31.70	37.70	130.82	137.27	14.92	47.37	856.59	808.80	0.92	47.0
36. Basti	39.90	24.50	6.10	35.80	32.60	79.60	51.90	58.20	24.53	42.22	38.80	40.90	133.74	141.93	24.64	31.61	782.26	759.53	0.74	72.0
37. Deoria	28.40	22.80	11.90	29.51	47.60	80.50	41.40	48.10	52.33	35.02	32.50	38.30	134.80	141.78	25.95	49.49	887.40	1028.29	0.76	96.0
38. Faizabad	36.10	22.20	7.10	32.05	56.40	81.40	61.90	57.80	22.56	45.03	48.90	45.90	137.31	138.84	37.87	45.35	970.72	1006.00	0.64	70.0
39. Ghazipur	27.30	15.70	6.00	18.63	22.60	55.70	37.20	48.70	22.84	60.10	34.90	44.40	122.38	123.40	13.95	51.37	629.70	771.63	0.90	88.0
40. Gonda	34.50	21.90	6.40	27.22	39.80	55.60	26.30	27.10	16.35	31.65	20.30	21.60	141.06	133.68	21.24	20.20	727.69	674.89	0.86	66.0
41. Gorakhpur	39.20	29.60	6.20	40.03	38.90	76.20	39.70	54.60	25.50	33.64	32.00	39.50	129.43	142.60	25.23	41.01	784.14	935.68	0.82	80.0
42. Jaunpur	23.30	21.80	6.50	20.20	25.50	55.00	53.60	57.10	38.69	30.29	45.50	44.80	129.46	134.91	19.67	44.25	783.69	994.24	0.53	56.0
43. Mirzapur	26.90	12.90	6.50	8.07	14.50	27.50	22.20	26.40	6.50	11.95	19.70	27.00	119.17	129.43	5.26	25.63	550.65	667.96	1.61	10.0
44. Pratapgarh	26.40	11.40	2.30	18.18	24.70	80.00	39.20	41.30	0.22	16.58	33.30	38.30	124.90	118.01	14.27	23.02	794.24	836.92	0.63	30.0
45. Sultanpur	32.50	15.30	3.70	24.31	36.60	72.20	39.80	44.80	10.32	23.76	31.30	37.40	131.03	128.96	16.48	21.80	798.32	762.86	0.71	18.0
46. Varanasi	31.40	15.30	6.20	21.10	23.70	73.80	44.10	53.50	26.06	27.44	37.20	48.20	133.46	136.84	19.17	58.10	718.87	930.02	0.61	68.0
47. Almora & Pithoragarh	24.00	42.30	4.30	10.80	20.60	20.30	7.70	9.30	0.00	0.00	7.70	11.00	159.22	162.98	3.00	2.71	499.74	1001.66	0.53	0.0
48. Dehradun	16.70	28.40	9.30	15.85	30.80	37.50	32.00	40.00	3.57	3.57	31.80	35.80	152.24	149.74	10.43	14.65	430.29	1059.47	1.09	23.0
49. Garhwal & Chamoli	19.80	35.40	3.00	5.23	14.30	8.90	9.60	7.80	0.00	0.00	9.60	7.05	163.13	166.98	1.39	1.39	1068.63	909.44	1.17	0.0
50. Nainital	31.10	30.50	14.90	28.16	38.90	57.70	30.20	50.60	30.95	0.00	47.50	2.51	149.21	158.82	23.86	58.84	778.93	1512.29	2.03	323.0
51. Tehri & Uttarkashi	17.80	35.20	2.80	7.38	26.70	12.80	12.30	13.50	0.00	0.00	12.80	16.40	155.34	159.00	2.48	3.56	406.16	1212.44	0.90	0.0

District	MRGR	MUGR	MTGR	UPR	Road Dens.	VCR%	VE%	Bank Dens.	PE Agri.	PE Total	LDB Loan	CB Loan(T)	CB Loan(P/W)	CBF Agri.	CBF (SSI)	CBF (RTSB)	CBF (PSE)	STL
0	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1. Agra	11.47	12.48	11.95	36.61	162.90	21.40	37.06	2.70	374.04	507.64	77.45	58827.00	57021.00	8610.0	27878.0	1342.0	4221.0	7.26
2. Aligarh	14.63	0.73	5.17	17.85	145.60	21.26	41.29	1.80	99.48	191.81	65.92	10949.00	12110.00	3869.0	4424.0	2156.0	2582.0	8.65
3. Budaun	-3.57	-6.39	-6.04	9.35	91.60	14.72	30.71	1.10	131.56	288.18	101.69	8856.00	7013.00	4341.0	1534.0	894.0	170.0	8.14
4. Bareilly	12.07	2.06	6.23	22.28	117.50	17.74	24.71	1.90	155.29	286.61	43.52	20252.00	9082.00	27486.0	5877.0	1256.0	948.0	13.12
5. Bijnor	8.97	1.77	3.13	18.10	168.00	30.73	44.86	1.60	359.10	422.85	66.89	21435.00	10751.00	17112.0	3547.0	827.0	1651.0	23.98
6. Bulandshahr	11.85	-2.41	-1.36	13.92	158.70	26.87	60.25	1.40	129.35	197.36	46.32	55876.00	8775.00	4361.0	1002.0	1430.0	1384.0	22.81
7. Etah	1.30	14.33	3.28	9.82	133.80	18.77	36.42	1.40	122.04	414.15	52.85	13103.00	9626.00	6008.0	326.0	1007.0	474.0	5.42
8. Etawah	15.83	26.30	12.82	9.79	125.90	19.23	27.08	1.50	214.16	296.21	39.85	5231.00	5153.00	3066.0	1563.0	114.0	91.0	9.59
9. Farrukhabad	-24.41	-3.49	-5.95	10.91	114.10	21.16	50.68	1.70	133.59	246.54	63.12	25348.00	22190.00	6194.0	8787.0	0.0	492.0	10.29
10. Mainpuri	7.99	1.66	3.38	8.44	148.60	20.56	28.43	1.10	189.25	304.41	37.52	15254.00	8268.00	3899.0	2954.0	529.0	177.0	7.07
11. Mathura	11.60	6.49	7.29	16.49	162.90	27.72	29.98	2.40	207.42	403.28	40.65	34312.00	22327.00	12682.0	2490.0	2273.0	4110.0	7.35
12. Meerut	18.47	0.20	9.88	22.64	195.70	44.90	62.16	3.40	138.12	452.02	117.96	179658.00	62778.00	17348.0	25192.0	3409.0	5842.0	9.91
13. Moradabad	16.19	6.78	9.58	23.77	133.30	18.18	49.53	1.70	149.08	1143.66	95.27	56755.00	46913.00	8748.0	10730.0	3676.0	1732.0	25.16
14. Muzaffarnagar	-8.35	1.00	-0.17	13.86	179.70	43.69	77.02	2.40	70.93	482.35	66.27	25490.00	18789.00	10094.0	3202.0	1392.0	1169.0	24.67
15. Pilibhit	19.09	-5.02	2.24	13.67	97.50	20.59	26.47	2.10	96.01	153.61	26.98	25633.00	24032.00	10367.0	9526.0	1192.0	387.0	15.92
16. Rampur	21.63	4.33	1.53	19.53	159.00	20.24	37.18	1.40	223.70	252.18	33.13	11277.00	9112.00	2188.0	5703.0	390.0	315.0	15.85
17. Saharanpur	26.01	4.49	18.04	23.50	146.40	30.33	50.24	2.70	220.38	482.92	120.12	32446.00	28267.00	9503.0	10559.0	2934.0	4334.0	21.42
18. Shahjahanpur	23.21	-5.46	4.04	15.24	103.00	18.10	20.74	1.20	47.87	92.40	35.24	22039.00	14628.00	7385.0	5678.0	1366.0	243.0	7.54
19. Barabanki	90.57	6.10	8.52	5.76	133.80	19.10	21.93	1.00	755.93	937.39	17.01	10692.00	7698.00	5127.0	974.0	810.0	168.0	4.90
20. Fatehpur	13.98	-6.20	5.08	5.63	132.80	16.49	35.80	1.20	304.62	448.66	35.54	3805.00	3720.00	3836.0	251.0	488.0	171.0	8.69
21. Hardoi	3.44	-8.68	7.15	7.90	94.20	14.90	15.27	0.80	69.28	133.06	43.48	20614.00	4656.00	2440.0	1280.0	690.0	0.0	4.91
22. Kanpur	9.63	5.71	7.72	42.80	136.40	18.92	23.52	3.60	501.26	1432.62	67.93	150925.00	45374.00	2841.0	22934.0	7930.0	417.0	1.16
23. Kheri	-6.33	-14.33	-8.93	6.21	95.10	20.72	32.16	1.10	90.97	170.69	60.55	26879.00	14299.00	6431.0	3188.0	2749.0	391.0	10.70
24. Lucknow	17.64	16.55	17.35	50.90	217.70	24.48	39.69	3.80	378.08	705.53	30.98	27722.00	176031.00	88585.0	16534.0	6225.0	1146.0	5.56
25. Rae Bareli	-0.38	-7.38	-8.09	3.40	181.40	23.39	38.82	1.40	1032.90	1439.78	48.42	17079.00	12614.00	4419.0	6783.0	734.0	434.0	6.00
26. Sitapur	0.36	10.83	7.29	7.54	113.40	12.67	15.24	0.90	125.99	211.54	39.94	23668.00	10711.00	5145.0	4559.0	284.0	656.0	5.79
27. Unnao	7.28	-7.44	-4.02	2.57	117.90	17.19	18.13	1.00	90.10	195.77	32.91	4594.00	3574.00	1577.0	1398.0	309.0	290.0	3.95
28. Banda	-9.26	6.23	5.86	8.29	81.80	13.09	20.38	1.20	236.31	322.93	16.52	1378.00	1311.00	932.0	350.0	679.0	108.0	9.05
29. Hamirpur	0.00	-6.68	-6.68	9.91	90.30	15.47	15.59	1.40	215.95	446.53	12.68	2044.00	461.00	1361.0	37.0	384.0	0.0	3.15
30. Jalaun	-14.68	12.23	11.59	13.75	129.10	23.32	21.73	1.50	224.41	326.54	11.06	184.00	1215.00	1158.0	9.0	17.0	0.0	14.84
31. Jhansi & Lalitpur	-10.73	4.44	2.04	24.56	103.10	19.57	11.03	1.90	173.45	413.89	13.85	7962.00	6996.00	3123.0	2255.0	324.0	617.0	7.08
32. Allahabad	10.88	12.57	12.13	18.46	171.50	20.15	20.02	1.80	974.06	1024.77	48.27	88219.00	12579.00	4063.0	5522.0	4564.0	96.0	8.49
33. Azamgarh	32.45	-2.76	2.13	5.21	188.60	26.97	37.04	0.90	764.48	1128.33	69.38	11955.00	8064.00	4384.0	791.0	1299.0	856.0	4.16
34. Bahraich	13.87	-19.42	-10.45	5.93	98.30	16.72	17.46	0.80	318.84	385.32	51.92	7909.00	3900.00	3300.0	179.0	425.0	2.0	4.28
35. Ballia	-20.79	-23.90	-23.92	4.58	178.60	28.45	25.99	1.10	225.26	307.98	30.28	12021.00	4577.00	4294.0	372.0	62.0	140.0	6.39
36. Basti	8.03	-6.70	-2.86	2.52	107.40	20.31	29.11	0.80	72.43	211.79	80.55	14927.00	12724.00	9687.0	1954.0	520.0	154.0	5.65
37. Deoria	-0.73	-4.31	-2.06	2.96	174.80	35.04	24.47	0.60	319.29	537.39	14.51	29753.00	7143.00	5533.0	498.0	783.0	0.0	5.86
38. Faizabad	7.29	-2.85	-1.23	9.56	135.40	24.27	38.09	1.00	450.38	718.54	53.14	17415.00	14299.00	7736.0	3730.0	1286.0	852.0	4.90
39. Ghazipur	-11.93	3.48	1.70	4.50	161.40	26.22	31.08	1.30	464.48	653.12	50.24	6611.00	5634.00	3533.0	629.0	824.0	545.0	5.44
40. Gonda	-2.86	-5.65	-1.78	5.65	110.10	10.47	23.63	0.80	115.66	190.24	82.36	16392.00	7099.00	5693.0	216.0	993.0	98.0	3.07
41. Gorakhpur	3.95	-7.48	-0.74	7.90	137.30	28.53	23.43	1.30	263.93	381.82	54.46	51010.00	23505.00	14709.0	5068.0	1256.0	709.0	4.59
42. Jaunpur	-3.02	-13.27	-12.31	6.21	169.90	28.87	27.56	1.00	481.88	1095.67	77.92	5446.00	4825.00	3242.0	0.0	847.0	382.0	6.79
43. Mirzapur	-10.65	0.64	-4.55	12.03	73.80	22.49	14.57	1.80	410.53	1089.62	17.70	912.00	10092.00	1737.0	0.0	479.0	277.0	5.27
44. Pratapgarh	0.20	2.74	2.86	1.96	158.60	29.48	24.97	0.70	495.78	544.93	37.69	3578.00	2698.00	1787.0	274.0	460.0	157.0	8.73
45. Sultanpur	1.20	8.94	9.73	1.97	142.10	25.37	32.88	0.70	705.62	2048.76	32.25	8361.00	8206.00	6695.0	380.0	678.0	145.0	5.64
46. Varanasi	1.14	14.23	10.41	25.00	206.70	28.96	26.93	2.80	540.08	717.68	27.61	89616.00	85062.00	2520.0	33948.0	448.0	1749.0	9.17
47. Almora & Pithoragarh	3.76	7.12	7.35	4.79	120.80	17.26	6.21	0.00	227.26	572.14	0.23	4902.00	5259.00	2826.0	574.0	1715.0	323.0	X
48. Dehradun	0.83	18.54	9.24	47.08	242.70	18.77	22.43	7.70	64.13	252.84	0.00	21642.00	4733.00	4427.0	1356.0	1435.0	1695.0	X
49. Garhwal & Chamoli	2.02	8.69	8.18	5.56	101.70	11.78	10.94	0.00	202.87	562.02	7.28	3400.00	3330.00	401.0	367.0	727.0	848.0	X
50. Nainital	1.66	4.54	3.50	22.13	165.70	31.11	38.62	4.20	344.11	1077.01	34.77	72991.00	56968.00	27056.0	8243.0	235.0	2663.0	X
51. Tehri & Uttarkashi	0.00	16.83	16.99	2.94	97.05	10.81	9.12	2.10	203.79	640.12	0.0	16561.00	2356.00	746.0	37.0	341.0	780.0	X

Note : The data names/captions have been explained earlier in this annexure